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ABSTRACT

In addition to an eight-page narrative, this final report contains materials and products from phase 2 of a project to develop, disseminate, and implement a three-year sequenced individualized and group instructional program in financial management for adult/young farmers in vocational agriculture. The narrative section discusses the four project objectives and findings/conclusions. These activities are described: dissemination of phase 1 findings and materials to adult educators of vocational agriculture through 30 workshops; teacher implementation of Unit I of the Farm Business Management Analysis program in 47 schools; development of Unit II, Analyzing the Farm Business; and identification of computer decision-making programs. Attachments include workshop materials, including evaluation; evaluation instruments for Unit I and responses; and Unit II. This 377-page unit contains 10 self-contained lessons with material for the monthly classroom session and on-the-farm instructional activity. Topics include tax planning and management, cash flow analysis, crop and livestock enterprise analysis, credit utilization, profit/loss analysis, and machinery, equipment, and building cost analysis. Major components of each lesson are review, objective, motivation, key points, introduction of information, group discussion, conclusions, announcements, social, on-the-farm instruction, and teaching materials (transparencies, handouts, etc.). Quizzes appear after most lessons. (YLB)

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FINAL REPORT

Dissemination and Implementation of a Financial Management Program for Adult/Young Farmers in Vocational Agriculture Programs in Missouri

Project #81-131/132-600-7(D)

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June 23, 1981

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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Missouri Department of Education
Research Coordinating Unit
Jefferson City, MO 65102

CE 029 780

ABSTRACT

Title: Dissemination and Implementation of a Financial Management Program for Adult/Young Farmers in Vocational Agriculture Programs in Missouri

Problem: This project was Phase Two of a three-phased program to develop, disseminate, and implement a three-year sequenced individualized and group instructional program in financial management for adult/young farmers in vocational agriculture in Missouri.

Scope: The scope of the project included the following:

a. Developed curriculum Unit II--Analyzing a Farm Business.

b. Conducted 30 workshops (series of 5 in 6 locations) to disseminate the findings of a project in Phase One.

c. Fifty-one local teachers enrolled in the workshops and implemented the program in their schools.

d. Developed two computer decision-making programs that can be accessed with remote data terminals.

Objectives:

1. To disseminate the findings and materials developed in a 1979-80 project to 100 percent of the full/half-time adult teachers through a series of workshops.
2. To implement the program in 33 Missouri schools in 1980-81.
3. To develop instructional materials for Unit II.
4. To develop two computer decision-making programs that can be accessed with remote terminals.

Findings, Results, Highlights:

A larger than expected number of teachers enrolled in the series of workshops (51 versus 33) and implemented the instructional program in their schools in 1980-81. Average attendance at the workshops was 89 percent and evaluations of the workshops indicated an overall rating of 8.01 (scale of 1 to 9) on effectiveness. An evaluation of a random sample of 20 percent of the enrollees showed an overall rating of the Unit I instructional program of 97.6 percent "very useful" or "useful" and 2.4 percent as "not worthwhile."

Implications:

Results of this project will have important implications for adult education in Missouri. Projecting the present rate of adoption of the curriculum materials, implementation of the program by local teachers, and enrollment of adults in the program, it is anticipated that within 5 years 50 percent of the schools will participate with a projected enrollment of 2,000-3,000 individuals (1,000-1,500 families).

A. Statement of the Problem.

The adult/young farmer phase of the vocational agriculture program in Missouri is the most rapidly growing part of the program. Projections in the State Plan for Vocational Education[1] estimate an enrollment in 1982-83 in adult/young farmer education of 5,200. The department of Elementary and Secondary Education[2] for these programs recommend that each instructor have a "core" or "management" group with which the instructor provides individualized instruction in addition to the classroom or group instruction. These standards recommend that emphasis be placed on instruction in farm business records with special emphasis the second and third year on analysis of the farm business. Instructors are responsible for making this instruction a valuable and realistic educational experience in order to develop management decision making competencies in the enrollees that will enable them to set and reach worthwhile family and business goals.

An RCU Project[3] in 1977 identified the area of financial management as the one of highest priority. The financial management area includes competencies necessary to identify the strengths and weaknesses of the farm business and the ability to develop alternative management techniques to reach their goals.

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[1] 1978-82 Missouri State Plan for Vocational Education, (Jefferson City, Missouri: Division of Career and Adult Education, Department of Elementary and Secondary Education, 1978), p. 128.

[2] "Standards for Conducting Adult/Young Farmer Programs in Missouri," (Jefferson City, Missouri: Vocational Agriculture Section, Department of Elementary and Secondary Education, October 1978). (Mimeographed.)

[3] Donald Claycomb, Determining the Educational Needs of Northwest Missouri Young Farmers, (Jefferson City, Missouri: Division of Career and Adult Education, Department of Elementary and Secondary Education, Research Coordinating Unit Project Number 2267, August 24, 1977).

An RCU Project[4] in 1979-80 identified 35 financial management competencies necessary for a young farmer to be successful. These were validated by three randomly sampled groups: agricultural credit personnel, vocational agriculture teachers of adult/young farmers, and enrollees in adult/young farmer classes. Using a scale of 1--no importance to 5--essential, it was determined that the four important competencies as ranked by all three groups were: (1) to be able to record expenses and receipts and determine gross profit (4.70), (2) to be able to compute a fourth quarter analysis of their farming business to be used for tax planning (4.52), (3) to be able to use a profit and loss statement to make managerial decisions for their farming business (4.50), and (4) to be able to develop a depreciation schedule for depreciable items owned (4.50).

In order to meet the educational needs of the adult/young farmer enrollees as identified in the 1979-80 RCU Project,[5] three major thrusts were outlined: (1) Use of the record book developed in the 1974-75 RCU Project[6] for the recording of current receipts and expenditures and a computer based program for year-end farm business analysis, maintenance of depreciation schedules, and income tax planning and completion. (2) Development of self-contained curriculum materials for a three year intensive individualized and group instructional program to be followed by a program designed to address specialized management topics. These units are: Unit I--Establishing a Farm Accounting System, Unit II--Analyzing the Farm Business, and Unit III--Implementing Changes in the Farm Business. Each unit includes a series of lessons based on a validated competency with specific tasks and is to be self-contained with transparency masters, pretest and posttest, and appropriate suggested activities for individualized on-farm instruction for the lesson. The first unit to implement the program was developed as part of the 1979-80 RCU Project.[7] (3) Development of additional programs, identified in the 1979-80 competency study, to be stored in the UMC RCP (Remote Computer Planning) bank to be accessed by teachers in local programs to aid in developing decision making competencies in the enrollees.

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[4] Robert Denker and Bob R. Stewart, Development of an Individualized and Group Instructional Program Based on Financial Management for Adult/Young Farmers in Vocational Agriculture Programs in Missouri, (Jefferson City, Missouri: Division of Career and Adult Education, Department of Elementary and Secondary Education, Research Coordinating Unit Project No. 80-131-600-2, 1980).

[5] Denker and Stewart.

[6] Robert Denker and Donald Osburn, Development and Dissemination of a Farm Record and Analysis System, (Jefferson City, Missouri: Division of Career and Adult Education, Department of Elementary and Secondary Education, Research Coordinating Unit Project Number 1247, 1975).

This project was designed to address these problems by attempting to achieve the objectives outlined below.

B. Objectives and Findings/Conclusions.

The goal of this project was to disseminate the findings and materials of a 1979-80 RCU Project,[8] to implement the instructional program developed during 1979-80 in schools in Missouri, and to develop curriculum materials for the second phase (Unit II) of the program. The specific objectives were as follows:

Objective 1: To disseminate the findings and materials developed in a 1979-80 project to 100 percent of the full/half-time teachers of adults in vocational agriculture in Missouri. Secondary teachers with adult/young farmer programs will also be invited to participate. (A series of five bi-monthly, four-hour workshops in each of the six geographical districts in Missouri will be conducted by the project staff in cooperation with the Department of Elementary and Secondary Education Agricultural Education district supervisors starting in August 1980.)

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[7] Denker and Stewart.

[8] Denker and Stewart.

Findings/Conclusions: A total of 30 workshops were conducted (five bi-monthly, four-hour workshops at Hamilton, Paris, Sedalia, Mount Vernon, Houston, and Jackson) to disseminate the findings and materials developed in the 1979-80 project. Workshops were held at Hamilton in August, October, December, February, and April. The workshops at Mount Vernon, Houston, and Jackson were held in September, November, January, March, and May. Forty-one of forty-four full/half-time adult teachers enrolled in the workshops for a 93 percent enrollment rate. In addition, 16 secondary teachers enrolled for a total enrollment of 57. The percent attendance at the workshops was 89 percent. (See Attachment A for a list of full/half-time teachers in Missouri, teachers enrolled in the workshops, and attendance record of each teacher.)

An evaluation was conducted following each workshop (see Attachment B for the instrument used for the evaluation). A summary of mean scores of all evaluations showed that on a scale of 1 to 9 the criteria were rated as follows: useful versus of no use--8.0, organized versus unorganized--8.1, current versus outdated--8.2, motivating versus boring--7.9, pertinent versus irrelevant--8.2, and specific versus vague--7.8. In addition, teachers were asked to indicate the degree to which they could have or could not have implemented the lessons without having attended the workshops. On a scale of 1 (could have) to 9 (could not have), the mean scores on all workshops was 6.5. (See Attachment C for a summary of the data on all workshops. Attachment D is a list of teacher responses to an open-ended question, "What would you suggest to improve future workshops?" The results of these evaluations were also reported to a subcommittee of the overall advisory committee on January 22, 1981, for evaluation and suggestions. Names of this committee are on Attachment H and their recommendations are a part of the committee meeting minutes on Attachment I.)

Objective 2: To implement the program in Missouri with teachers in 33 schools (75 percent of the 44 schools with full/half-time adult teachers) teaching Unit I--Establishing a Farm Accounting System during the 1980-81 school year. [It is proposed that the total (group and individualized) instructional program (using Unit I for the first year) be initiated in these local schools in October 1980.]

Findings/Conclusions: The Farm Business Management Analysis (FBMA) program was implemented in 47 schools in 1980-81 (142 percent of project goal). Teachers in four of these schools have resigned at the end of June 1981. It is expected that 45 programs will definitely continue and expand. This number includes programs in 43 schools with the same teacher as in 1980-81 and in 2 schools that have already secured a replacement teacher. The remaining two are uncertain at this time. See Attachment A for a list of schools with records to be analyzed in 1981 which are the ones that implemented the program in 1980-81.

An evaluation of a random sample of 20 percent of the enrollees showed an overall rating of the Unit I instructional program of 97.6 percent as "very useful" or "useful" and 2.4 percent as "not worthwhile." See Attachment E for a copy of the letter mailed to enrollees, Attachment F for a copy of the instrument used to evaluate the Unit I instructional program, and Attachment G for the results of the evaluation procedure. Attachment L is a copy of the instrument used to evaluate the lessons in Unit I and to identify needed revisions.

Objective 3. To develop instructional materials for Unit II--Analyzing the Farm Business. (This unit will be a self-contained curriculum unit of approximately ten monthly lessons based on competencies identified in the 1979-80 project and will be for Year Two of the program in local schools. Unit I was developed in 1979-80.)

Findings/Conclusions: A copy of Unit II--Analyzing the Farm Business, a self-contained curriculum unit of ten monthly lessons, is attached to this report. In developing this unit, the staff outlined the ten lessons identified in the competency study and biographical data of adult/young farmer enrollees obtained in the 1979-80 project. Key points, to achieve task identified in the study, were listed for each lesson by the staff. The advisory committee (see Attachment H) was divided into groups and asked to review and revise the lessons, objectives, and key points. Following group work, each group reported their decisions to the overall committee for final revision and approval. A copy of the final form is on Attachment J and was the basis for writing Unit II.

Objective 4: To develop two additional computer programs that can be accessed with remote data terminals that will enable adult/young farmers to achieve competencies outside of the financial management area as identified in the 1979-80 project.

Findings/Conclusions: The staff identified numerous possible computer programs that could be accessed with remote data terminals to achieve Objective 4. This list was submitted to the advisory committee (Attachment H). The committee listed additional needs and after discussion voted to rank the needs as indicated on Attachment K. Programs were written by staff, edited, and trial programs run. A copy of the input forms developed and a copy of the programs using example data are available.

C. Population and Sample.

Not applicable--this was a dissemination, implementation, and development project.

D. Conclusions and Recommendations.

All objectives and activities identified in the project were achieved. The findings were disseminated in the series of workshops to 57 teachers of adult/young farmers; the FBMA program was implemented in 47 schools with an enrollment of 235 families; Unit II of the curriculum materials was developed; and two additional computer programs were developed. The project was successful and achieved the overall goal of implementing the FBMA program in schools in Missouri.

Recommendations include:

1. Workshops to disseminate Unit II and the computer program should be conducted in 1981-82.
2. Unit III--Adjusting the Farm Business to Increase Profit should be developed in 1981-82 to complete the series of curriculum units for the FBMA program.
3. Workshops for teachers starting the FBMA program in 1981-82 should be conducted in order to implement the program in additional schools.
4. Two types of research activities should be initiated in 1981-82 or 1982-83: (1) Benefit/cost study to determine the effectiveness of the FBMA program. Financial data is available on the enrollees to determine changes in enrollee's income compared to past year's income and compared to non-enrollee's income versus costs associated with the program. (2) An analysis of factors effecting improvement of income and achievement of goals of enrollees should be made to assist in improving the effectiveness of the instructional program.

E. Disclaimer

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Career and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Career and Adult Education, and no official endorsement should be inferred.

F. Attachments.

Attachments follow and are referred to in the body of this report.

ATTACHMENT A

REPORT ON THE FARM BUSINESS MANAGEMENT ANALYSIS PROGRAM

June 1, 1981

School	Teacher	District	Percent Adult Reimb.	Number of Workshops Attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Montgomery City	Witthaus	NE	50%	5/5	yes	1	5
Community R-VI	Niemeyer	NE	50%	5/5	yes	3	4
North Shelby	Shively	NE	75%	5/5	yes	2	3*
Monroe City	LaRue	NE	50%	4/5	no	6	8*
Mexico	Dishman	NE	50%	5/5	yes	12	12
Mexico	Windmann	NE	50%	4/5	----------working with Dishman---------- (yes)		
Palmyra	Caldwell	NE	50%	5/5	no	0	3
Moberly	Lewis	NE	50%	4/5	no	0	dropped program
Salisbury	Scheiderer	NE	50%	5/5	yes	1	5*

School	Teacher	District	Percent	Number of	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Paris	Mallory	NE	50%	5/5	no	0	3
Knox Co.	Ewalt	NE	100%	5/5	no, but plan to	0	8
Centralia	Trask	NE	100%	not participating			
Marshall	Weber	C	33%	5/5	yes	1	6*
Sweet Springs	Dohrman	C	50%	5/5	yes	4	8
Lexington	Rissler	C	50%	5/5	yes	3	3*
California	Ratcliff	C	50%	5/5	yes	4	15*
California	Schneider	C	50%	not participating			
Sedalia	McBride	C	25%	5/5	no	0	6

School	Teacher	District	Percent adult reimb.	Number of workshops attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Carrollton	Dodgen	C	75%	5/5	yes	0	3
Boonville	Sponaugle	C	Sec.	5/5	no	1	4*
Wellington	Twente	C	Sec.	3/5	no	0	4
Butler	Browning	C	Sec.	4/5	yes	0	2
Slater	Crews	C	Sec.	5/5	yes	2	5
Pleasant Hill	Meyer	C	Sec.	5/5	no	0	4

Cameron	Riley	NW	50%	5/5	yes	3	10*
Hamilton	Lee	NW	100%	5/5	-----------not participating-----------		
Savannah	Schroder	NW	50%	5/5	no	3	3

School	Teacher	District	Percent adult reimb.	Number of workshops attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Chillicothe	Wolf	NW	50%	5/5	yes	9	14
Chillicothe	Brown	NW	100%	5/5	yes	0	?
Hardin	Balman	NW	50%?	3/5	no	0	2
Stet	Rhodes	NW	100%	3/5	not partic.	0	retired
Trenton	Cox	NW	50%	3/5	yes	0	10
Maryville	Harbstreit	NW	Sec.	5/5	no, but plan to	0	4
Maysville	Grozinger	NW	Sec.	5/5	yes	0	4*
Tina-Avalon	Trussell	NW	Sec.	5/5	yes	5	7

Mountain Grove	Ulry	SC	50%	5/5	yes	4	8

School	Teacher	District	Percent adult reimb.	Number of workshops attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Linn	Chapman	SC	33%	4/5	yes	0	6
Linn	Schafer	SC	33%	--------------Chapman does FBMA at Linn------------			
Mountain View	Richardson	SC	50%	5/5	--working with Gleghorn-		resigned
Mountain View	Gleghorn	SC	50%	4/5	no, but plan to	0	3
Houston	Baker	SC	50%	5/5	no	0	0
Houston	Morton	SC	50%	-------dropped out------		?	0
Alton	Williams	SC	50%	4/5	no	0	0
Salem	Freeman	SC	50%	2/5	no	1	1
Willow Springs	Irvin	SC	50%	2/5	no	0	0
Chamois	Hill	SC	Sec.	5/5	yes	0	3*

School	Teacher	District	Percent adult reimb.	Number of workshops attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Jackson	Wine	SE	50%	5/5	yes	1	3*
Perryville	Hager	SE	50%	3/5	no	0	resigned
Dexter	Bryant	SE	50%	5/5	yes	1	9*
East Prairie	Bain	SE	50%	5/5	yes	3	4+
Advance	Johnson	SE	Sec.	5/5	no	0	4*
Carthage	Honey	SW	50%	5/5	yes	0	6*
Carl Junction	Flanders	SW	50%	1/5	yes	0	resigned
Rogersville	Minnick	SW	33%	4/5	no	0	?
Aurora	Golding	SW	50%	------------recovering from heart attack-			4

School	Teacher	District	Percent adult reimb.	Number of workshops attended	Used tax mgt. prog.	Number of records analyzed in 1980	Number of records to be analyzed in 1981
Golden City	Pyle	SW	Sec.	4/5	no	0	drop?
Greenfield	McGee	SW	Sec.	5/5	no	0	1*
Lockwood	Jones	SW	Sec.	5/5	yes	1	5*
Marionville	Kyle	SW	Sec.	5/5	yes	1	1*
Lamar	Pace	SW	Sec.	3/5	no	0	5*
Dadeville	McGee	SW	Sec.	4/5	no	0	drop?

Other							

SURVEY FINDINGS

Total teachers participating in FBMA 1980-81	= 54
Percent attendance of teachers at workshops to date	= 89%
Number of records planned analyzed in 1980	= 72
Number of records planned to be analyzed in 1981	= 135+
Percent of teachers using Tax Management Program	= 50%

ATTACHMENT B

EVALUATION OF FBMA WORKSHOPS

Location____

Unit and Lessons Discussed______________________ Date____________

1. The information presented was:

a.	of no use	1	2	3	4	5	6	7	8	9	useful
b.	organized	1	2	3	4	5	6	7	8	9	unorganized
c.	current	1	2	3	4	5	6	7	8	9	outdated
d.	boring	1	2	3	4	5	6	7	8	9	motivating
e.	pertinent	1	2	3	4	5	6	7	8	9	irrelevant
f.	vague	1	2	3	4	5	6	7	8	9	specific

2. The workshop involved:

a.	too few activities	1	2	3	4	5	6	7	8	9	too many activities
b.	too much information	1	2	3	4	5	6	7	8	9	too little information
c.	too much discussion	1	2	3	4	5	6	7	8	9	too much lecture

3. The workshop was:

a.	too long	1	2	3	4	5	6	7	8	9	too short
b.	too fast	1	2	3	4	5	6	7	8	9	too slow

4. Describe the relationship between "how to use" the lessons and the technical contents in the lessons which occurred during the workshop:

a.	too much "how to"	1	2	3	4	5	6	7	8	9	not enough "how to"
b.	not enough technical	1	2	3	4	5	6	7	8	9	too much technical

5. Indicate the degree to which you could have or could not have implemented the lessons discussed without having attended this workshop.

could have	1	2	3	4	5	6	7	8	9	could not have

6. What would you suggest to improve this series of workshops?

____

____

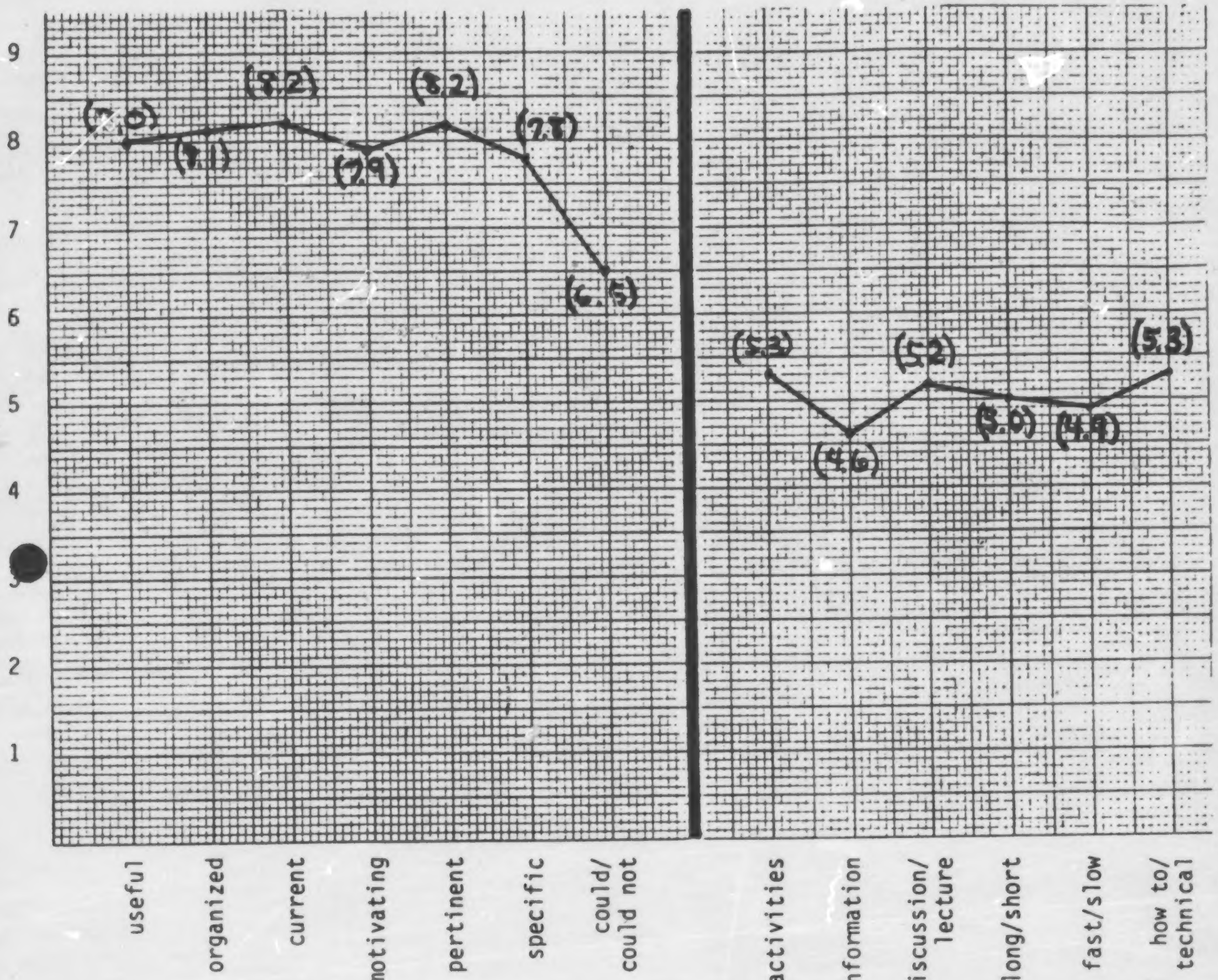
____

ATTACHMENT C

SYNOPSIS OF FBMA WORKSHOP EVALUATIONS

Location Average of All Workshops

Units and Lessons Discussed Unit I Date



Means on Scores on Evaluation Items

Suggestions to improve workshops:

ATTACHMENT D

AVERAGE OF ALL WORKSHOPS

Suggestions to improve workshops:

1. They seem to be getting the job done as far as we are concerned--the problem is getting on to young farmers.
2. Have a period for trouble area questions.
3. More discussion on "how to."
4. How to get commitment from the farmer.
5. Need more time.
6. Take breaks more often; however, do not shorten in length.
7. Workshop was okay, but we need more training before we are ready to get computer information that is pertinent.
8. All is good--need more time.
9. Give more information that will help persons understand Tax Management.
10. Need to be placed with individuals who are having same trivial problems as I am; everything seems "over my head."
11. Just fine.
12. Very helpful.
13. Feel they are excellent and are most helpful.
14. More technical information on tax law pertaining to depreciation and capital qains.
15. This is the kind of information that I need.
16. Slow down on the filling out of the tax management section and maybe add a lesson on income tax forms prior to the tax management program.
17. Have more of them--schedule them as far in advance as possible.
18. Still a little vague on capital gains.
19. Don't assume students know all of what you are talking about--most explanations were adequate.
20. Not one thing.
21. They need to be broken down a little more to make some of the areas a little more understandable--example, taxes, depreciation.
22. More of them.
23. Send or hand out lessons to students so they may look them over prior to class.
24. None.
25. I need the information on how to analyze records, tax information, etc.
26. All was good.
27. More meetings and more specific problems worked on the board in relation to tax problems, depreciation, and capital gains.
28. None.
29. More time.
30. None.
31. More time.
32. Don't get stuck on specific topics.

ATTACHMENT E

UNIVERSITY OF MISSOURI-COLUMBIA

College of Agriculture
College of Education

Agricultural Education
Department of Practical Arts and
Vocational-Technical Education

435 General Classroom Building
Columbia, Missouri 65211
Telephone (314) 882-7451

March 16, 1981

We are surveying 20 percent of the farmers taking part in the Farm Business Management Analysis Program (FBMA) being conducted by vocational agriculture departments. The purpose is to identify ways we can improve the program so it will be of maximum value to those participating.

Your name was drawn as one of the 20 percent. We will appreciate it if you will complete the enclosed forms and return them in the stamped addressed envelope.

We need these by March 30, 1981, but will appreciate receiving them as soon as possible.

Thank you for your cooperation.

Sincerely,

Robert Denker
Assistant Professor
Agricultural Education

RD/las

Enclosures

an equal opportunity institution

ATTACHMENT F

SURVEY OF FBMA ENROLLEES

______ 1. How many class sessions have you attended?

______ 2. How many visits has the instructor made to your farm in reference to the FBMA program?

______ 3. Did you have your records analyzed at the end of 1980?

Please answer the following as you feel today:

4. What do you like best about the FBMA program?

5. What do you like least about the FBMA program?

6. What suggestions do you have for improving the FBMA program?

Evaluation

FARM BUSINESS MANAGEMENT AND ANALYSIS PROGRAM

Unit I--Establishing a Farm Accounting System

LESSON	I believe the information provided in this lesson is ...			
	VERY USEFUL	USEFUL	NOT WORTHWHILE	HAVE NOT STUDIED THE LESSON
1. Orientation to the FBMA Program and Setting Goals				
2. Introduction to Keeping Records				
3. Recording Receipts and Expenditures				
4. Planning the Year's Cash Flow				
5. Developing Depreciation Schedules for Machinery				
6. Developing Depreciation Schedules for Livestock and Developing Inventories				
7. Developing an Investment Record for Real Estate				
8. Keeping Enterprise Records				
9. Making the Mid-Year Cash Flow Check				
10. Using Concept of Time Value in Planning				
	VERY OFTEN	OFTEN	SELDOM	NEVER
THE INSTRUCTOR WAS:				
1. Prepared for class.				
2. Enthusiastic.				
3. Competent in subject matter.				
4. Able to communicate effectively.				
	VERY OFTEN	OFTEN	SELDOM	NEVER
ON-FARM VISITS:				
1. Benefited my business.				
2. Were well-timed and scheduled.				
3. Met my needs.				

Summary of Survey of Random Sample of
20% of FBMA Enrollees, April 1981
(62% Responded)

ATTACHMENT G

Evaluation

FARM BUSINESS MANAGEMENT AND ANALYSIS PROGRAM

Unit I--Establishing a Farm Accounting System

LESSON	I believe the information provided in this lesson is ... VERY USEFUL*	USEFUL*	NOT WORTHWHILE*	HAVE NOT STUDIED THE LESSON
1. Orientation to the FBMA Program and Setting Goals	45.4%	54.6%		8.3%
2. Introduction to Keeping Records	27.2%	63.6%	9.0%	8.3%
3. Recording Receipts and Expenditures	27.2%	72.8%		8.3%
4. Planning the Year's Cash Flow	40.0%	50.0%	10.0%	16.6%
5. Developing Depreciation Schedules for Machinery	44.4%	55.6%		16.6%
6. Developing Depreciation Schedules for Livestock and Developing Inventories	40.0%	60.0%		16.6%
7. Developing an Investment Record for Real Estate	14.3%	85.7%		41.7%
8. Keeping Enterprise Records	50.0%	50.0%		50.0%
9. Making the Mid-Year Cash Flow Check	--	--	--	100.0%
10. Using Concept of Time Value in Planning	--	--	--	100.0%

THE INSTRUCTOR HAS:	VERY OFTEN	OFTEN	SELDOM	NEVER
1. Prepared for class.	81.8%	18.2%	0.0%	0.0%
2. Enthusiastic.	72.7%	27.3%	0.0%	0.0%
3. Competent in subject matter.	54.5%	45.5%	0.0%	0.0%
4. Able to communicate effectively.	63.6%	36.4%	0.0%	0.0%

ON-FARM VISITS:	VERY OFTEN	OFTEN	SELDOM	NEVER	Not Visited
1. Benefited my business.	44.4%**	55.6%**			18.2%
2. Were well-timed and scheduled	44.4%**	55.6%**			18.2%
3. Met my needs.	55.6%**	44.4%**			18.2%

*Response of those having studied the lesson; **Response of those receiving visits.

1. How many classes have you attended? Average = 3.92; Range 0-7
2. How many visits has the instructor made to your farm relative to FBMA? Average = 3.30; Range 0-7

SURVEY OF FBMA ENROLLEES

4. What do you like best about the FBMA program?

It will help us to keep our books and records up to date.

Easier to close our books at the end of the year.

Once you get started it is easy to compare and analyze your records.

The instructor keeps your interest in them so you want to keep going.

Tax planning.

I have only begun with the FBMA program, and thus far, have only had my depreciation schedule printed, so I can not give a true opinion of how the program will work for me.

I feel like the program will be useful in showing the profitability of our different enterprises with less effort than the method we used in the past.

It will help me to analyze my business operation.

Gives you a feel of how managing a farm is like, and the know-how to do it right.

The friendly and open atmosphere which our instructor has created.

The serious attitude our group has taken toward the program.

Wanted a background in computer records.

The extent of the system, in which you can see what progress you are making from month to month or year to year.

I have become more complete and accurate with my records.

Being able to compare my farm with others involved with the computer printouts.

The income tax estimate printout.

Certain points of information received at FBMA classes.

It will give me a chance to compare with other young farmers and hopefully give me a little more detail about my operation.

Individual conference with instructor.

Program planned to be husband and wife project in record keeping.

5. What do you like least about the FBMA program?

Nothing really.

What is hardest is trying to change to the FFA bookkeeping book from our University of Missouri book (Missouri Looseleaf).

Don't believe that the columns are quite as good as we are changing some headings to be easier for us.

The first year was a lot of work getting started.

If the instructor wasn't interested, it would have been harder to get started.

Details.

The program needs each member to keep enterprise records to be valuable to me in my operation.

In our class most aren't going to keep very detailed enterprise records so I wonder if my records can be compared to others in the state with accuracy.

I haven't been involved long enough to know.

Some of the problems.

No real concerns in this area.

This should of started sooner in the year for 1980 records to be analyzed.

Going out extra nights to classes.

I'm not sure without having seen complete printout.

Forms used by Missouri Young Farmers.

6. What suggestions do you have for improving the FBMA program?

Just help our school to get an additional vocational agriculture instructor so that Mr. ____________ would have more time to work with us. He is quite a teacher.

This is the first record program I have been acquainted with so it is hard to compare.

My lenders are amazed at the depth of the program.

More information at tax planning time.

I think the program should be more suited to the needs of the class.

There are some in our class who haven't kept records and others who take the class to improve their skill at record keeping.

I want the program to help me keep more detailed records.

None.

More managing films, guest speakers.

Instructor orientated to the full program before the start of the program year.

As I was unable to attend the three meetings my instructor held, he did relay the information to me.

I think possible (FBMA or College of Agriculture) pushed too hard for 1980 sign-ups for record analysis.

I was never impressed with Missouri Extension Records (computer) and FBMA seems like a copy, less the monthly tallies.

Maybe our instructor was just late (December 1980) in starting and my not being able to attend meetings probably didn't help.

You might ask again next year, I might see it different.

Some other type of cash flow system, and an easier system of analysis.

Include ratios on computer printout.

Provide method of distribution of fixed expenses to enterprise analysis on year-end printout.

Possibly combine some of the lessons into one class.

For my operation, I would like it to see one more column for landlord because I'm in a three generation operation and would like to see my own, Dad's and Grandpa's and a total breakout, if possible.

ATTACHMENT H

ADVISORY SUBCOMMITTEE MEMBERS

Name	Position	Address
Jim Riley	Instructor, Vocational Agriculture	Cameron High School Cameron, MO 64429
Donald LaRue	Instructor, Vocational Agriculture	Monroe City R-1 High School Monroe City, MO 63456
Jim Golding	Instructor, Vocational Agriculture	Aurora R-8 High School Aurora, MO 65605
John Bryant	Instructor, Vocational Agriculture	Dexter R-II High School Dexter, MO 63841
Roger Williams	Instructor, Vocational Agriculture	Alton R-4 High School Alton, MO 65606
Dale Ratcliff	Instructor, Vocational Agriculture	California R-1 High School California, MO 65018
Cliff McBride	Instructor, Vocational Agriculture	State Fair Community College Sedalia, MO 65301
Jim Grozinger	Instructor, Vocational Agriculture	Maysville High School Maysville, MO 64469
Joe Pace	Instructor, Vocational Agriculture	Lamar R-1 High School Lamar, MO 64759
Duane Burnett	President, Missouri Young Farmers Association	Route 2 Hamilton, MO 64644
Kay Dameron	Supervisor, Research Coordinating Unit	Department of Elementary and Secondary Education Jefferson City, MO 65102
John Harvey	Chief, Farmer Programs	United States Department of Agriculture Columbia, MO 65201
Myron Bennett	Extension Economist, Agricultural Economics	University of Missouri-Columbia Columbia, MO 65211
Larry Case	Director, Vocational Agriculture Section	Department of Elementary and Secondary Education Jefferson City, MO 65102
Robert Hayward	Assistant Director, Vocational Agriculture Section	Department of Elementary and Secondary Education Jefferson City, MO 65102

Name	Position	Address
R. D. Hagan	District Supervisor, Vocational Agriculture Section	Department of Elementary and Secondary Education Jefferson City, MO 65102
G. W. Hamby	District Supervisor, Vocational Agriculture Section, DESE	1327 Kevin Road Mount Vernon, MO 65712
Terry Heiman	District Supervisor, Vocational Agriculture Section	Department of Elementary and Secondary Education Jefferson City, MO 65102
Doug Funk	District Supervisor, Vocational Agriculture Section, DESE	Star Route, Box 178D Annapolis, MO 63620
Curtis Weston	Coordinator & Professor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211
Bob Stewart	Professor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211
Richard Linhardt	Associate Professor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211
Don Claycomb	Assistant Professor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211
Robert Denker	Assistant Professor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211
Norman Rohrbach	Instructor, Agricultural Education	University of Missouri-Columbia Columbia, MO 65211

ATTACHMENT I

Minutes of the
FARM BUSINESS MANAGEMENT AND ANALYSIS
Advisory Committee Meeting
Thursday, January 22, 1981

The meeting was called to order by Robert Denker at 10:00 a.m. Those in attendance included: Donald Claycomb, Norlin Hein, Carol Kirtley, John Harvey, Jim Golding, Dale Ratcliff, Kay Dameron, Robert Denker, Larry Case, Raymond Hagan, Steve Burhoe, Jim Riley, Jim Cook, Jim Grozinger, Curtis Weston, Marvin Hoskey, Donald LaRue, Robert Hayward, Terry Heiman, Norman Rohrbach, Doug Funk, G. W. Hamby, Cliff McBride, Bob Stewart, and Carla Kirts.

Curtis Weston, Coordinator of Agricultural Education at the University of Missouri-Columbia, and Larry Case, Director of the Vocational Agriculture Section of the Department of Elementary and Secondary Education, welcomed the participants. Both speakers emphasized the value of each participant's input to the success of the FBMA project.

Bob Stewart presented an overview of the project. He began by summarizing the planning efforts of last year and followed with a description of the implementation phase occurring this year. The committee discussed those situations shown on the Preliminary Program Report which have produced little progress. Individuals from DESE reassured the committee that pressure had been and would continue to be applied to those teachers who had not produced results somewhat equivalent to their percentage of reimbursement.

The cover of the printed materials was reviewed. They agreed, by consensus, that a caption explaining each phase of FBMA should appear under each picture. Also, dollar signs should appear somewhere on the cover. The possibility of using actual pictures, rather than drawings, was discussed. Also, several members were concerned that the drawings depicted high school students, not adults. Final revision of the cover was reserved for the project staff.

The committee reminded the staff that the acronym, FBMA, should be used with discretion since it can be easily confused with closely related abbreviations.

The Administrative Guidelines were briefly discussed.

Carla Kirts reported on the lesson and workshop evaluation procedures. There was some confusion concerning items four and five on the workshop evaluation sheet. It was suggested that item four be divided into two questions. On the question of enlarging transparency and handout numbers within each lesson, the committee appeared divided. Consensus seemed to indicate that the project should make the final decision based on program philosophy and time involved in the change.

Participants who have used lessons on depreciation indicated they have used and appreciated detailed descriptions included for each depreciation entry.

Norman Rohrbach led a discussion concerning procedures to be used in initially preparing new FBMA instructors next year while, at the same time, teaching the teachers that started in 1980-81 the material for Unit II. Suggestions included:

1) A summer workshop for a week or so including all FBMA instructors.
2) Separate summer workshops for first year instructors and second year instructors.
3) Encourage new instructors to sit in on second year instructor's classes.
4) Require instructors to attend workshops, however they are organized, dependent upon reimbursement.
5) A workshop is definitely needed before teaching FBMA lessons.
6) Develop media materials that can be used in conjunction with other approaches. (Media materials can provide a role model.)
7) Use the amplified telephone.
8) Hold the workshops on campus.
9) Mr. Denker can work individually with new teachers; however, idea exchanges really occur better in classes of at least ten. Therefore, use a workshop approach.
10) Use an approach like the old WWII veterans program.
11) Begin in the summer with a workshop and follow during the year with telephone calls and a buddy system (first year instructor paired with a more experienced second year instructor). Conduct Unit II workshops during 1981-82 as was done with Unit I in 1980-81.

The committee concluded that the final decision should be left to the project staff; however, the last suggestion was strongly recommended.

Encouraging high school graduates to enroll immediately in FBMA upon graduation was discussed. Most agreed that such young members are difficult to obtain and retain; however, when they do participate, their prior experience with record keeping provides a role model for other FBMA class members.

Steve Burhoe presented a list of possible computer programs to be included in the FBMA curriculum. An additional program to compare proprietorship and corporation ownership was discussed. Committee members were asked to select programs they considered a priority and submit their choice to the project staff.

After lunch, the committee divided into three groups to discuss various topics as follows:

1) Supervisors reviewed and added to a list of prospective FBMA instructors for next year. This will be finalized later, but prior to August, 1981.
2) Half of the remaining members developed key points for Lessons 1 - 5 of Unit II. (The report is attached.)
3) The remaining members developed key points for Lessons 6 - 10 of Unit II. (The report is attached.)

Respectfully Submitted,

Carla A. Kirts

Carla Kirts
Graduate Research Assistant

ATTACHMENT J

Unit II--Analyzing the Farm Business

Lesson 1: Planning Next Year's Livestock and Cropping Programs and Cash Flow

Key Points:
1. How do I develop costs and returns for various crops in our area for next year?
2. How do I develop costs and returns for livestock enterprises in our area for next year?
3. How are these estimates entered on Form 27?
4. What are some additional returns?

Lesson 2: Maximizing This Year's After-Tax Income

Key Points:
1. How do I get my cash flow ready for completing a tax management analysis?
2. How is the TAXMGMT input form completed?
3. How is the information from the TAXMGMT input form entered into the computer?
4. How is the printout interpreted and adjustments made?

Lesson 3: Summarizing the Year's Records

Key Points:
1. How are expenses and receipts on Form 27 totaled and cross-checked for summary and analysis?
2. How is enterprise Form 31 totaled and cross-checked?
3. How are enterprise Forms 32 and 33 totaled and cross-checked?

Lesson 4: Reviewing Income Tax

Key Points:
1. How is the 1040F received from the computer program checked and verified?
2. What other information will I need for tax preparer?
3. What items are on a tax checklist?
4. What management changes can I make next year to maximize after-tax income?

Lesson 5: Analyzing the Profit/Loss Statement

Key Points:
1. How is income measured?
2. How do I identify areas that need improvement?
3. How can I make a comparison with similar business?
4. How do I use this information to plan for the future?

Lesson 6: Analyzing the Financial Statement and Cash Flow

Key Points:
1. What does the cash flow statement tell me?
2. How are assets and liabilities classified on the financial statement?
3. How is the financial statement set up and what does it tell me?
4. How do I analyze a financial statement with ratios?
5. What do lenders look for in a financial statement?

Lesson 7: Analyzing Livestock Enterprises

Key Points:
1. What are the profitability factors that are common to all livestock enterprises?
2. How should I analyze each of my livestock enterprises?
3. What can I do to make my livestock enterprises more profitable?

Lesson 8: Analyzing Crop Enterprises

Key Points:
1. What are the profitability factors in crop production?
2. How do I analyze my crop enterprises?
3. How can I make my crop enterprises more profitable?
4. How can I compare rental agreements?

Lesson 9: Analyzing Machinery, Equipment, and Building Costs

Key Points:
1. How do I determine my present total investment and total costs per tillable acre?
2. What kinds of costs occur in owning machinery/ buildings?
3. What alternatives are there to ownership and how do they compare?
4. What computer programs are available to help in this area?

Lesson 10: Utilizing Farm Credit

Key Points:
1. How do I select a personal lending agency?
2. What are the three types of credit and how can they be used as a benefit?
3. What are the costs of credit?
4. What is a security agreement and how is it used?
5. How should I plan my credit needs?

[illegible]IVERSITY OF MISSOURI-COLUMBIA

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College of Education

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ATTACHMENT K

Report on the results of the TSO Programs

The Advisory Committee ranked the new programs in the following order:

1. NEWTAX- yearly changes in tax laws applicable to farmers, with examples.
2. DEPCOMP- comparison of the methods of depreciation available to the farmer for tax purposes.
3. RECAPTURE- comparison of gains or losses using investment credit. Also the problems encountered if sold early.
4. TAXMGMT II- go into more detail and stretch the program over more years to show the long term effects of shifting.

Others receiving votes:

1. SALVAGE
2. SOW/BOAR COMPARISONS
3. SELFTAX

ATTACHMENT L

EVALUATION OF FBMA LESSONS

Name____ Date________________

Location and Date of Workshop Attended________________________________

I. A. Number of unit being evaluated (circle one): I II III IV

B. Number of lesson being evaluated (circle one): 1 2 3 4 5 6 7 8 9 10

C. This lesson has:

too many activities 1 2 3 4 5 6 7 8 9 too few activities

too much information 1 2 3 4 5 6 7 8 9 too little information

II. Comment on the following sections of the lesson. Identify page number when being specific.

A. Review: ____

____

B. Motivation: ____

____

C. Introduction of Information: ____

____

D. Transparencies: ____

____

E. Handouts: ____

____

F. Conclusions: ____

____

G. On-Farm Visit Recommendations: ____

____

H. Other Comments: ____

____

UNIT II

for

FARM BUSINESS MANAGEMENT ANALYSIS: ANALYZING THE FARM BUSINESS

Robert Denker
Bob Stewart
Norman Rohrbach
Carla Kirts

Volume 13
Number 7

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FOREWARD

The lessons in this unit, Unit II--Analyzing the Farm Business, are designed primarily for Missouri vocational agriculture instructors participating in the Farm Business Management Analysis Program. Each lesson is a self-contained instructional package and includes material for the monthly classroom session and the monthly on-the-farm instructional activity. The lessons are written using the Missouri format for adult instruction as outlined in the Administrative Guidelines for Farm Business Management Analysis (page 5). Specific suggestions for using the material in preparing to teach the lessons are included on the following pages of this publication.

A key activity to successful local programs is the monthly on-the-farm instruction period. These must include checking with the enrollees to be certain records are being kept up-to-date and the correct procedure is being used. Effective farm management decisions must be based on current, accurate data and analysis.

The lessons are designed to be used with a group of enrollees primarily composed of local young and adult farmers. Monthly sessions should start in October and be conducted with subsequent lessons on a monthly schedule. Adaptations may need to be made in some communities to permit more than one lesson per month and none during the spring crop season. In essence, the curriculum is designed for flexibility affording each instructor the latitude to adjust the curriculum to insure its most effective implementation.

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Agricultural Education
University of Missouri-Columbia
Columbia, Missouri

Larry D. Case, Director
Agricultural Education
Department of Elementary
and Secondary Education
Jefferson City, Missouri

Acknowledgements

Many individuals contributed to the development of the Farm Business Management Analysis (FBMA) program. The advisory committee for the FBMA project provided most of the original input. The committee included:

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Norman Rohrbach, Project Coordinator, and Carla Kirts, Graduate Assistant, revised and updated the curriculum for the final printing. Recognition is also given to the University of Minnesota and the University of Missouri-Columbia Mail-In Records program for their materials used as major references for this FBMA project.

Robert Denker and Bob R. Stewart
Project Directors
Agricultural Education
University of Missouri-Columbia

TO THE INSTRUCTOR--SUGGESTIONS FOR USE

Unit II--Analyzing the Farm Business is designed as a curriculum guide for Farm Business Management Analysis (FBMA) instructors to use in helping Missouri young and adult farmers analyze their records. The unit is composed of ten lessons which include topics such as tax planning and management; cash flow analysis; crop and livestock enterprise analysis; credit utilization; profit/loss analysis; and machinery, equipment, and building cost analysis.

The outline of each lesson is based on the Missouri format for adult instructional materials which is very similar to procedures applied to using the problem solving approach. The major components of each lesson include the review, objective, motivation, key points (called study questions when using a structured problem solving approach), introduction of information (facts, examples, etc., needed to address each key point), group discussion, conclusions, announcements, social, on-the-farm instruction, and materials needed to teach the lesson (transparencies, handouts, etc.).

Since a curriculum can not be "all things to all people," instructors are encouraged to use this unit as a guide to teaching FBMA. For example, transparencies and handouts are suggested for use, but could be replaced with self-designed materials which the instructor feels are more appropriate in a specific community. Furthermore, while one instructor uses every transparency and handout provided with the lesson, another may only use a select few because the information could be presented in a more appropriate manner.

Transparencies and handouts are numbered sequentially throughout the unit and are labeled using the abbreviations, TM and HO, respectively. For example, the first lesson contains TM-1 and HO-1 through HO-17. In one instance, lesson 4, transparencies from a preceding lesson are suggested for use with a subsequent lesson. Furthermore, several transparencies and handouts are combined on one sheet and are consequently labeled with both identification codes (TM-20 and HO-58). Handouts should be duplicated by the instructor, while transparencies can be self-produced or ordered from the Instructional Materials Laboratory at the University of Missouri-Columbia. In cases in which handouts and/or transparencies from Unit I are used in Unit II, a note is included in the materials list. Also, materials of Unit II are identified from those of Unit I with FBMA II printed on each.

Each enrollee, or pairs of enrollees (if spouses, business partners, etc., are enrolled simultaneously) needs a Missouri Farm Business Analysis Record Book. In addition, the instructor may want enrollees to maintain a notebook in which notes, handouts, and examples can be placed. If this is the case, the instructor will probably want to punch all handouts for convenient insertion in these personal notebooks. Besides being a home or office reference for enrollees to use when making actual entries, the notebook could provide a convenient, useful reference for the instructor and enrollees to use during on-the-farm visits (suggested with each monthly lesson).

Before teaching a lesson, the instructor should thoroughly review the lesson and accompanying materials. Instructors piloting these lessons generally suggest two methods for preparing to teach the lesson: 1) read the lesson several times and highlight (circle or color code) specific parts to facilitate instruction, and 2) outline a lesson plan, based on the FBMA lesson, which can be taken into class and used without the help of the original FBMA lesson. These procedures help assure that the instructor is thoroughly acquainted with the information and materials before going into class and is not relying solely on the printed curriculum.

Quizzes have been included at the end of most of these lessons. These are provided as additional materials which can be used to motivate the enrollees; they are not intended to be used as measures of achievement at the end of each lesson.

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FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 1: Planning Next Year's Livestock and Cropping Programs and Cash Flow

A. Review

Since this is the first lesson for this year, a review is impossible. You may want to let each family report on progress and/or other happenings since the last meeting. The main purpose is to re-establish the group's working relationship.

B. Objective

To determine estimated costs and returns for next year and plan next year's cash flow.

C. Motivation

Give a blank sheet of paper to everyone in class. Ask them to write down their estimate of average hog prices for next year (or, a commodity common to everyone in the class). List some of the figures on the board and let those people give their reasons for making their estimate. Do not try to arrive at a consensus at this point. Next, ask them which of two enterprises common to the community (such as corn versus beans or beef cows versus backgrounding calves) will be the most profitable next year. Again, do not try to arrive at a consensus. Let them discuss reasons for opinions and then point out that the objective of our lesson is to determine the cost and returns we can use in planning a cash flow for next year.

D. Key Points

Key points for this lesson are:

1. *How do I develop costs and returns for various crops in our area for next year?*
2. *How do I develop costs and returns for livestock enterprises in our area for next year?*
3. *How are these estimates entered on Form 27?*
4. *What are some additional returns?*

E. Introduction of Information

Begin by pointing out that the first part of the class will involve developing projected budgets for different crop and livestock enterprises. This will give us an idea of the relative profitability of enterprises for next year and an idea for projected costs and returns for our cash flow.

1. *How do I develop costs and returns for various crops in our area for next year?*

   Depending on the size of the class, divide them into groups of about 2-3 couples per group. Ask each group to work on a different crop budget to determine relative profitability of various crops.

   Have enrollees refer to HO-1 to HO-8 and review the entries in the "Typical" column. (These were developed for 1981 and need to be updated each year.) Also, they should be given a copy of projected prices developed by the UMC Ag Econ Outlook staff for reference. Ask them to develop their own figures for the "Your Estimate" column within each group.

   a. Some general hints for using the budget forms are:

      (1) Let the small groups do budgets for an average situation in the community where the farmer owns all the land. Compare the results on various crops.

      (2) Let the small groups do budgets with a typical community crop:share and/or cash lease arrangement. Include only the renter's share of expenses and returns in the "Your Estimate" column. Compare these results.

      (3) Determine the percent of crop yield that would need to be hedged or forward priced at today's futures prices to cover operating cost per acre. If this is in the 20-25 percent range, should this be considered?

   b. Distribute copies of the budget forms to each family to let them plug in their own figures. As an example, some families may need two or three budget forms for corn because they may have different rental agreements or yield expectations. A limited amount of time can be allowed for this activity, however, most families will probably want to do most of this at home.

If desired, the computer program at UMC, BCROP, could be run if a terminal is available locally. If a terminal is not available, some of the BCROP programs could be run by mailing them to the Agricultural Education office a week or more prior to the class. Results could then be shown to the class. The input form and a sample printout are on HO-9a, HO-9b, and HO-9c.

2. *How do I develop costs and returns for livestock enterprises in our area for next year?*

Divide the class into groups as done for the crop section--only, try to group by interest or involvement in enterprises. Distribute appropriate budget forms (HO-10 to HO-14) to groups. (These were developed for 1981 and need to be updated annually.) Also, distribute current outlook information developed by the UMC Ag Econ Outlook staff for reference. Ask them to develop their own figures for the "Your Estimate" column.

a. Some general hints for using the budget forms are:

(1) Encourage the group to do more than one budget per enterprise by changing factors such as litter size, litters per year per sow, amount of hay and pasture charged to a beef cow, etc. Compare the results of the various budgets on the board and discuss feasibility of each presented budget. HO-15 provides an opportunity to do budgeting by computer for another livestock enterprise.

(2) Determine the effect of forward contracting or hedging 25-30 percent of the anticipated production at current opportunities for the next six months on covering cash operating costs. Discuss the feasibility of some in the group considering this in their cash flow planning.

3. *How are these estimates entered on Form 27?*

Since everyone in the group worked on Unit I, Lesson 4--Planning a Cash Flow last year and has completed a cash flow to date, the emphasis on this Key Point will be to update the coming year's cash flow.

a. Show TM-1. Review these points briefly since they were discussed last year.

(1) Planning crop and livestock programs. The crop and livestock budgets developed in Key Points 1 and 2 should provide the basis for enrollees

making these decisions this year. They can refer to last year's cash flow summary to make a projection of timing and amounts of receipts and expenditures considering the budgets that apply to their farm business.

(2) Estimating repairs, overhead costs, and purchase/sale of capital items. Amounts from last year's cash flow summary plus inflation should provide a reasonably accurate projection for the coming year for these items.

(3) Estimating family and "off-farm" income. Let each family complete a HO-16 using last year's actual as a guide. The SSPEND computer program on HO-17a and HO-17b could also be run if desired.

(4) Completing the cash flow form. Provide a copy of Form 27 for each couple and have them start completing the form for their situation for next year. Do not use enough class time for them to complete it in class. There will probably be several things the couples will want to discuss privately prior to completing the form and the farm visit this month is an opportune time to work individually on these.

(5) Adjusting the tentative planned cash flow. Review the procedure for identifying credit needs and repayments and methods of making adjustments to arrive at the planned cash flow.

4. *What are some additional returns/costs?*

Identify some items that may change this coming year that have not been discussed previously that will have an effect on the planned cash flows. The following list is not meant to be complete, but may stimulate some ideas:

a. Discussion points

(1) ASCS target prices, loan rates, etc.

(2) Federal Crop Insurance Programs.

(3) ASCS cost share programs.

(4) Support price changes as for dairy.

(5) Interest rate changes.

(6) Other.

b. Encourage the group to consider these changes in their planned cash flows.

F. Group Discussion

Let the group discuss application of ideas developed throughout the lesson. If possible, have a local credit person meet with the group to share ideas on changes in budgets, importance of cash flow planning, and financing problems for the coming year.

G. Conclusions

Conclusions that might be listed include:

1. Budgets for crop and livestock enterprises should be developed annually.
2. This year's cash flow summary provides the base for planning next year's.
3. Budgets for owned and rented crop land should be developed separately.
4. Consideration might be given to some price protection as discussed in Key Points 1 and 2.
5.
6.

Announcements

Next meeting, we will discuss how you can maximize your after tax income for this year. Please have Form 27 accurately completed and current. Also ask them to bring a copy of income tax forms which were completed in past years.

Social

On-the-Farm Instruction

Ask each couple to complete Steps 1, 2, and 3 of TM-1 prior to your visit this month. You can review this information and assist in completing Form 27. You will need Manual 75, some extra Form 27s, an adding machine with tape, some outlook information, and the farmer's current year's Form 27. Also, review the farm and family goals prior to the visit in order to help direct planning to reach their goals. Helping with needed adjustments is the most important and critical task to accomplish during the visit. You may also want to make sure the enrollee has or will have an up-to-date Form 27 completed by the next meeting.

It would be advantageous for you to visit with local credit people and discuss procedures for planning a cash flow with them so you have a better feel for local policies and receive their support.

Materials Needed

Instructor

TM-1, Steps in Planning a Cash Flow

Student*

HO-1, Projected Corn Production Costs in 1981
HO-2, Projected Corn Silage Production Costs in 1981
HO-3, Projected Soybean Production Costs in 1981
HO-4, Projected Milo Production Costs in 1981
HO-5, Projected Wheat Production Costs in 1980-81
HO-6, Projected Alfalfa Hay Production Costs in 1981
HO-7, Projected Mixed Hay Production Costs in 1981
HO-8, Projected Grass-Legume Pasture Production Costs in 1981
HO-9a, BCROP--Best Crop Input Form (blank)
HO-9b, BCROP--Best Crop Input Form (completed example)
HO-9c, BCROP--Example Output
HO-10, Projected Farrow-Finish Swine Production Costs in 1981
HO-11, Projected 60# Feeder Pig Production Costs in 1981
HO-12, Projected Beef Cow-Calf Production Costs in 1981
HO-13, Projected Backgrounding Steer Cost in 1981
HO-14, Projected Dairy Cow Production Costs in 1981
HO-15, Input Form for PIGFN--Pig Finishing Budget and Return Tables (blank)
HO-16, Estimated Family Living (same as HO-13 of FBMA, Unit I)
HO-17a, SSPEND--Speedy Spend Input Form (blank)
HO-17b, SSPEND--Speedy Spend Input Form (completed example)
Missouri Farm Business Analysis Record Book

*After 1981 consult the UMC Agricultural Economics Outlook Staff for current typical prices.

STEPS IN PLANNING A CASH FLOW

1. PLANNING CROP AND LIVESTOCK PROGRAMS
2. ESTIMATING REPAIRS, OVERHEAD COSTS, AND PURCHASE/SALE OF CAPITAL ITEMS
3. ESTIMATING FAMILY LIVING AND "OFF-FARM" INCOME
4. COMPLETING THE CASH FLOW FORM
5. ADJUSTING THE TENTATIVE PLANNED CASH FLOW

PROJECTED CORN PRODUCTION COSTS IN 1981

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS/ACRE		
Seed	$ 13.50	$____
Fertilizer: N - 130 lbs. @ 16¢	21.00	____
P - 50 lbs. @ 26¢	13.00	____
K - 60 lbs. @ 12¢	7.00	____
Lime (annual cost)	4.00	____
Crop chemicals	17.50	____
Machinery operation and hire	35.50	____
Cash rent	--	____
Miscellaneous	12.50	____
Other: ____	--	____
Operating interest (½ operating costs x .12)	7.50	____
	$131.50	$____
2. ESTIMATED OWNERSHIP COSTS/ACRE		
Machinery depreciation & interest ($125/acre x .28)	$ 35.00	$____
Real estate taxes, depreciation, & interest ($1,200/acre x .07)	84.00	____
	$119.00	$____
3. ESTIMATED LABOR COST/ACRE (5.5 hours x $4.00)	$ 22.00	$____
4. ESTIMATED TOTAL COSTS/ACRE	$272.50	$____
5. ESTIMATED NET INCOME/ACRE		
a. Avg. price/bu. expected $____		
b. Avg. yield/ac. expected ____ x avg. price/bu. =		$____
c. Estimated operating costs/ac. (Item 1)		$____
d. Net income over operating costs (b minus c)		$____

Source: Herman Workman, UMC, November, 1980.

PROJECTED CORN SILAGE PRODUCTION COSTS IN 1981

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS		
Seed	$ 13.50	$
Fertilizer: N - 140 lbs. @ 16¢	22.40	
P - 60 lbs. @ 26¢	15.60	
K - 120 lbs. @ 12¢	14.40	
Lime (annual costs)	4.00	
Crop chemicals	17.50	
Machinery operation and hire	42.50	
Cash rent	--	
Miscellaneous	12.50	
Other: ____________	--	
Operating interest (½ operating costs x .12)	8.50	
	$151.00	$
2. ESTIMATED OWNERSHIP COSTS/ACRE		
Machinery depreciation & interest ($150/acre x .28)	$ 42.00	$
Real estate taxes, depreciation, & interest ($1,200/acre x .07)	84.00	
	$126.00	$
3. ESTIMATED LABOR COST/ACRE (10.0 hours x $4.00)	$ 40.00	$
4. ESTIMATED TOTAL COSTS/ACRE	$317.00	$
5. ESTIMATED NET INCOME/ACRE		
a. Average price/ton $____________		
b. Average yield expected ______ x avg. price/ton =		$
c. Estimated operating costs/acre (Item 1)		$
d. Net income over operating costs (b minus c)		$

PROJECTED SOYBEAN PRODUCTION COSTS IN 1981

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS		
Seed	$ 9.50	$
Fertilizer: P (removal) 20 lbs. @ 26¢	5.00	
K (removal) 40 lbs. @ 12¢	5.00	
Lime (annual cost)	4.00	
Crop chemicals	18.00	
Cash rent	--	
Machinery operation and hire	30.00	
Miscellaneous	7.50	
Other: ____________________	--	
Operating interest (½ operating costs x .12)	5.00	
	$ 84.00	$
2. ESTIMATED OWNERSHIP COSTS/ACRE		
Machinery depreciation & interest ($100/acre x .28)	$ 28.00	$
Real estate taxes, depreciation, & interest ($1,200/acre x .07)	84.00	
	$112.00	$
3. ESTIMATED LABOR COST/ACRE (4.6 hours x $4.00)	$ 18.00	$
4. ESTIMATED TOTAL COSTS/ACRE[1]	$214.00	$
5. ESTIMATED NET INCOME/ACRE		
a. Avg. price/bu. expected $__________		
b. Avg. yield/ac. expected _____ x avg. price/bu. =		$
c. Estimated operating costs/ac. (Item 1)		$
d. Net income over operating costs (b minus c)		$

---

[1] Estimated total costs (per acre or per bushel) are based on single cropping. Projected ownership costs would be substantially reduced by double cropping.

Source: Herman Workman, UMC, November, 1980.

15
HO-4
FBMA II

PROJECTED MILO PRODUCTION COSTS IN 1981

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS/ACRE		
Seed	$ 4.50	$
Fertilizer: N - 100 lbs. @ 16¢	16.00	
P - 50 lbs. @ 26¢	13.00	
K - 60 lbs. @ 12¢	7.00	
Lime (annual cost)	4.00	
Crop chemicals	12.00	
Cash rent	--	
Machinery operation and hire	28.00	
Miscellaneous	9.50	
Other: ______________	--	
Operating interest (½ operating costs x .12)	5.50	
	$ 99.50	$
2. ESTIMATED OWNERSHIP COSTS/ACRE		
Machinery depreciation ($100/acre x .28)	$ 28.00	$
Real estate taxes, depreciation, & interest ($1,000/acre x .07)	70.00	
	$ 98.00	$
3. ESTIMATED LABOR COST/ACRE (4.5 hours x $4.00)	$ 18.00	$
4. ESTIMATED TOTAL COSTS/ACRE[1]	$215.50	$
5. ESTIMATED NET INCOME/ACRE		
a. Avg. price/bu. expected $__________		
b. Avg. yield/ac. expected ______ x avg. price/bu. =		$
c. Estimated operating costs/ac. (Item 1)		$
d. Net income over operating costs (b minus c)		$

---

[1] Estimated total costs (per acre or per bushel) are based on single cropping. Projected ownership costs would be substantially reduced by double cropping.

Source: Herman Workman, UMC, November, 1980.

PROJECTED WHEAT PRODUCTION COSTS IN 1980-81

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS/ACRE		
Seed	$ 8.50	$______
Fertilizer: N - 60 lbs. @ 23¢	14.00	______
P - 40 lbs. @ 26¢	10.50	______
K - 40 lbs. @ 12¢	5.00	______
Lime (annual cost)	4.00	______
Machinery operation and hire	23.00	______
Cash rent	--	______
Miscellaneous	6.00	______
Other: ______________	--	______
Operating interest (½ operating costs x .12)	4.50	______
	$ 75.50	$______
2. ESTIMATED OWNERSHIP COSTS/ACRE		
Machinery depreciation & interest ($75 x .28)	$ 21.00	$______
Real estate taxes, depreciation, & interest ($1,000/acre x .07)	70.00	______
	$ 91.00	$______
3. ESTIMATED LABOR COST/ACRE (3.2 hours x $4.00)	$ 13.00	$______
4. ESTIMATED TOTAL COSTS/ACRE[1]	$179.50	$______
5. ESTIMATED NET INCOME/ACRE		
a. Avg. price/bu. expected $______		
b. Avg. yield/ac. expected ______ x avg. price/bu. =		$______
c. Estimated operating costs/ac. (Item 1)		$______
d. Net income over operating costs (b minus c)		$______

---

[1] Estimated total costs (per acre or per bushel) are based on single cropping. Projected ownership costs would be substantially reduced by double cropping.

Source: Herman Workman, UMC, November, 1980.

PROJECTED ALFALFA HAY PRODUCTION COSTS IN 1981

		Typical	Your Estimate
1.	ESTIMATED OPERATING COSTS/ACRE		
	Establishment cost	$ 13.00	$______
	Fertilizer and lime: P - 30 lbs. @ 26¢	7.80	______
	K - 100 lbs. @ 12¢	12.00	______
	Lime	4.00	______
	Chemicals	7.50	______
	Machinery operation and hire (owned)	21.00	______
	Cash rent	--	______
	Miscellaneous	4.00	______
	Other: ______	--	______
	Operating interest (½ operating costs x .12)	4.00	______
		$ 73.00	$______
2.	ESTIMATED OWNERSHIP COSTS/ACRE		
	Machinery depreciation ($60 x .28)	$ 17.00	$______
	Real estate taxes, depreciation, & interest ($800 x .07)	56.00	______
		$ 73.00	$______
3.	ESTIMATED LABOR COST/ACRE (8 hours x $4.00)	$ 32.00	$______
4.	ESTIMATED TOTAL COSTS/ACRE	$178.00	$______
5.	ESTIMATED NET INCOME/ACRE		
	a. Avg. price/ton $______		
	b. Avg. yield expected ______ x avg. price/ton =		$______
	c. Estimated operating costs/acre (Item 1)		$______
	d. Net income over operating costs (b minus c)		$______

PROJECTED MIXED HAY PRODUCTION COSTS IN 1981

		Typical	Your Estimate
1.	ESTIMATED OPERATING COSTS/ACRE		
	Seed	$ 1.50	$
	Fertilizer & lime: P (removal) 25 lbs @ 26¢	6.50	
	K (removal) 80 lbs @ 12¢	9.50	
	Lime annual cost	4.00	
	Crop chemicals	.50	
	Machinery operation and hire	19.00	
	Cash rent	--	
	Miscellaneous	4.00	
	Other: ______________	--	
	Operating interest (½ operating costs x .12)	2.50	
		$ 47.50	$
2.	ESTIMATED OWNERSHIP COSTS/ACRE		
	Machinery depreciation and interest ($50 x .28)	$ 14.00	$
	Real estate taxes, depreciation, & interest ($650/acre x .07)	45.50	
		$ 59.50	$
3.	ESTIMATED LABOR COST/ACRE	$ 13.00	$
4.	ESTIMATED TOTAL COSTS/ACRE	$120.00	$
5.	ESTIMATED NET INCOME/ACRE		
	a. Avg. price/ton expected $____________		
	b. Avg. yield/ac. expected ______ tons x avg. price/ton =		$
	c. Estimated operating costs/acre (Item 1)		$
	d. Net income over operating costs (b minus c)		$

Source: Herman Workman, UMC, November, 1980.

PROJECTED GRASS-LEGUME PASTURE PRODUCTION COSTS IN 1981

		Typical	Your Estimate
1.	ESTIMATED OPERATING COSTS/ACRE		
	Establishment cost (annual share)	$ 6.00	$
	Fertilizer & lime: P - 25 lbs. @ 26¢	6.50	
	K - 50 lbs. @ 12¢	6.00	
	Lime	4.00	
	Crop chemicals	.50	
	Machinery operation and hire	2.00	
	Cash rent	--	
	Miscellaneous	--	
	Other: ______________________	--	
	Operating interest (½ operating costs x .12)	1.50	
		$ 26.50	$
2.	ESTIMATED OWNERSHIP COSTS/ACRE		
	Machinery depreciation and interest	$ --	$
	Real estate taxes, depreciation, & interest ($500 x .07)	35.00	
		$ 35.00	$
3.	ESTIMATED LABOR COST/ACRE (1.5 hours x $4.00)	$ 6.00	$
4.	ESTIMATED TOTAL COSTS/ACRE	$ 67.50	$
5.	ESTIMATED NET INCOME/ACRE		
	a. Avg. price/AUM $__________		
	b. Avg. AUM/acre ______ x avg. price		$
	c. Estimated operating costs		$
	d. Net income over operating costs (b minus c)		$

COOPERATIVE EXTENSION SERVICE UNIVERSITY OF MISSOURI LINCOLN UNIVERSITY

25

HO-9a
FBMA II

REMOTE COMPUTER PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617

FM-7832

COMPUTER SYSTEM: CMN
UMC

BCROP
BEST CROP INPUT FORM

Your name (20 spaces) ____________________

Your address (34 spaces) __________________________________

Name of the base crop (9 spaces) _________

Unit of yield for the base crop (9 spaces) _________

Expected base crop yield/acre ________

Expected base crop price/unit ($) ________

Direct cash expense/acre to grow base crop minus crop residue, i.e., straw, huskage, etc. ________

Name of the competing crop (9 spaces) _________

Unit of yield for the competing crop (9 spaces) _________

Expected yield for the competing crop ________

Expected price/unit for the competing crop ($) ________

Direct cash expense/acre to grow the competing crop minus the crop residue ________

COOPERATIVE EXTENSION SERVICE UNIVERSITY OF MISSOURI LINCOLN UNIVERSITY

27
HO-9b
FBMA II

◄ REMOTE
◄ COMPUTER
◄ PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617

FM-7812

COMPUTER SYSTEM: CMN
UMC

BCROP
BEST CROP INPUT FORM

Your name (20 spaces) RCP EXAMPLE

Your address (34 spaces) UMC

Name of the base crop (9 spaces) CORN

Unit of yield for the base crop (9 spaces) BUSHEL

Expected base crop yield/acre 80

Expected base crop price/unit ($) 2.10

Direct cash expense/acre to grow base crop minus crop residue, i.e., straw, huskage, etc. 90

Name of the competing crop (9 spaces) MILO

Unit of yield for the competing crop (9 spaces) BUSHEL

Expected yield for the competing crop 70

Expected price/unit for the competing crop ($) 1.85

Direct cash expense/acre to grow the competing crop minus the crop residue 71

BCROP

EXAMPLE OUTPUT

```
REMOTE COMPUTER PLANNING                CROP-EQUAL RETURN ANALYSIS
AGRICULTURAL ECONOMICS DEPT.             1/ 3/79
EXTENSION DIVISION                      RCP EXAMPLE
UNIVERSITY OF MISSOURI                  UMC


THERE IS A DIFFERENCE IN DIRECT GROWING EXPENSE IN FAVOR OF
MILO     OF $ 19.00 PER ACRE.


MILO     YIELDS THAT EQUAL RETURNS FROM CORN     WITH MILO
COSTS BEING $ 19.00 PER ACRE LESS THAN CORN

CORN                        MILO     PRICE PER BUSHEL
YIELD=  80.0       1.56     1.75     1.95     2.14     2.34
     PRICE
  PER BUSHEL       EQUAL-RETURN MILO     YIELD PER ACRE
         1.76 :     78.1     69.4     62.5     56.8     52.1
         1.98 :     89.4     79.4     71.5     65.0     59.6
         2.20 :    100.6     89.5     80.5     73.2     67.1
         2.42 :    111.9     99.5     89.5     81.4     74.6
         2.64 :    123.2    109.5     98.6     89.6     82.1


MILO     PRICES THAT EQUAL RETURNS FROM CORN     WITH MILO
COSTS BEING $ 19.00 PER ACRE LESS THAN CORN

CORN                        MILO     YIELD PER ACRE
PRICE=$  2.20       56.0     63.0     70.0     77.0     84.0
      YIELD
     PER ACRE      EQUAL-RETURN MILO     PRICE
         64.0 :     2.17     1.93     1.74     1.58     1.45
         72.0 :     2.49     2.21     1.99     1.81     1.66
         80.0 :     2.80     2.49     2.24     2.04     1.87
         88.0 :     3.12     2.77     2.49     2.27     2.08
         96.0 :     3.43     3.05     2.75     2.50     2.29


ENTER ONE OF THE FOLLOWING:
  1=NEW BASE CROP
  2=NEW COMPETING CROP
  3=END THIS PROGRAM
?
3
DO YOU WANT TO RUN ANOTHER PROGRAM?
```

PROJECTED FARROW-FINISH SWINE PRODUCTION COSTS IN 1981

	Per Sow (28 cwt.)	Your Estimate
1. ESTIMATED OPERATING COSTS		
Commercial feed, 2,500# x $.125	$ 312.50	$____________
Grain, 10,000# x $.055	550.00	____________
	$ 862.50	$____________
Veterinary and medicine	$ 23.00	$____________
Livestock materials and services	8.50	____________
Equipment operation and machine hire	45.00	____________
Utilities, insurance, and miscellaneous	39.00	____________
Personal property taxes	2.50	____________
Real estate repairs and maintenance	21.00	____________
Operating interest (½ operating costs x .12)	60.00	____________
Total cash costs except labor	$1,061.50	$____________
2. ESTIMATED OWNERSHIP COSTS		
Real estate interest, depreciation, & taxes	$ 70.00	$____________
Interest on breeding herd	14.00	____________
Machinery and equipment interest and depreciation	42.00	____________
Total fixed costs	$ 126.00	$____________
3. ESTIMATED LABOR COST (28 hrs. @ $4)	$ 112.00	$____________
4. ESTIMATED TOTAL COSTS	$1,299.50	$____________
5. ESTIMATED NET INCOME/SOW		
a. Avg. price mkt. hog/cwt. expected $____________		
b. Cwt. mkt. hogs sold/sow ______ x avg. price/cwt. =		$____________
c. Avg. price cull sow/cwt. expected $____________		
d. Cwt. cull sow sold/sow ______ x avg. price/cwt. =		$____________
e. Gross income/sow (b + d)		$____________
f. Total operating costs (Item 1)		$____________
g. Estimated income over operating costs (e minus f)		$____________
h. Estimated income over total costs (e minus Item 4)		$____________

Source: Leroy Rottmann, UMC, November, 1980.

PROJECTED 60# FEEDER PIG PRODUCTION COSTS IN 1981

	Per Sow (8 cwt.)	Your Estimate
1. ESTIMATED OPERATING COSTS		
Commercial feed, 1,250# x $.125	$156.00	$__________
Grain, 3,000# x $.055	165.00	__________
	$321.00	$__________
Veterinary and medicine	$ 18.00	$__________
Livestock materials and services	8.00	__________
Equipment operation and machine hire	23.00	__________
Utilities, insurance, and miscellaneous	32.00	__________
Personal property taxes	1.50	__________
Real estate repairs and maintenance	15.00	__________
Operating interest (½ operating costs x .12)	25.00	__________
Total cash costs except labor	$443.50	$__________
2. ESTIMATED OWNERSHIP COSTS		
Real estate interest, depreciation, & taxes	$ 50.00	$__________
Interest on breeding herd	14.00	__________
Machinery and equipment interest and depreciation	35.00	__________
Total fixed costs	$ 99.00	$__________
3. ESTIMATED LABOR COST (22 hrs. @ $4)	$ 88.00	$__________
4. ESTIMATED TOTAL COSTS	$630.50	$__________
5. ESTIMATED NET INCOME/SOW		
a. Avg. price feeder pigs/cwt. expected $__________		
b. Cwt. pigs sold/sow _____ x avg. price/cwt. =		$__________
c. Avg. price cull sow/cwt. expected $__________		
d. Cwt. cull sow sold/sow _____ x avg. price/cwt. =		$__________
e. Gross income/sow (b + d)		$__________
f. Total operating costs (Item 1)		$__________
g. Estimated income over operating costs (e minus f)		$__________
h. Estimated income over total costs (e minus Item 4)		$__________

PROJECTED BEEF COW-CALF PRODUCTION COSTS IN 1981

	Per Cow[1]	Your Estimate
1. ESTIMATED OPERATING COSTS		
Commercial feed, 300# x $.11	$ 33.00	$________
Grains, 440# x $.055	24.00	________
Hay, silage (hay equiv. basis) 4,000# x $.025	100.00	________
Pasture, 9.5 AUM x $7	66.50	________
	$223.50	$________
Veterinary and medicine	$ 7.00	$________
Livestock materials and services	6.00	________
Equipment operation and machine hire	18.00	________
Utilities, insurance, and miscellaneous	6.00	________
Personal property taxes	1.00	________
Real estate repair and maintenance	7.00	________
Operating interest (½ operating costs x .12)	16.00	________
Total cash costs except labor	$284.50	$________
2. ESTIMATED OWNERSHIP COSTS		
Real estate interest, depreciation, & taxes	$ 12.00	$________
Interest on breeding herd[2], $700 x .12	84.00	________
Machinery and equipment interest and depreciation	14.00	________
Total fixed costs	$ 110.00	$________
3. ESTIMATED LABOR COST (9 hrs. @ $4)	$ 36.00	$________
4. ESTIMATED TOTAL COSTS	$430.50	$________
5. ESTIMATED NET INCOME		
a. Avg. feeder calf price/cwt. expected $________		
b. Cwt. calf sold/cow _____ x avg. price/cwt. =		$________
c. Avg. cull cow price/cwt. expected $________		
d. Cwt. cow sold/cow _____ x avg. price/cwt. =		$________
e. Gross income/cow (b + d)		$________
f. Total operating costs (Item 1)		$________
g. Estimated income over operating costs (e minus f)		$________
h. Estimated income over total costs (e minus Item 4)		$________

---

[1] Based on 475 lbs. produced per cow (335 lbs. young cattle & 140 lbs. breeding herd).
[2] Investment includes value of cow, share of bull, etc.

Source: V. E. Jacobs, UMC, November, 1980.

PROJECTED BACKGROUNDING STEER COST IN 1981
(Buy 400#--Sell 750# year later)

	Typical	Your Estimate
1. ESTIMATED OPERATING COSTS		
Commercial feed, 100# x $.12	$ 12.00	$______
Hay equivalent, .8 T x $50	40.00	______
Pasture, 5.5 AUM x $7.50	41.00	______
	$ 93.00	$______
Veterinary and medicine	$ 5.00	$______
Livestock materials and services	4.00	______
Equipment operation and machine hire	5.00	______
Utilities, insurance, and miscellaneous	1.00	______
Personal property taxes	.50	______
Real estate repair and maintenance	3.00	______
Operating interest (½ operating costs x .12)	6.50	______
Total cash costs except calf and labor	$118.00	$______
2. ESTIMATED OWNERSHIP COSTS		
Real estate interest, depreciation, & taxes	$ 5.00	$______
Machinery and equipment investment and depreciation	5.00	______
Total fixed costs	$ 10.00	$______
3. ESTIMATED LABOR COSTS (3.5 hrs. @ $4)	$ 14.00	$______
4. ESTIMATED TOTAL COSTS	$142.00	$______

5. ESTIMATED NET INCOME

a. Avg. selling wt. ______ x avg. price/lb. = $______
b. Avg. buying wt. ______ x avg. price/lb. = $______
c. Interest on calf: cost per head ______ x .12 = $______
d. Gross profit/head, a - (b + c) = $______
e. Total operating costs (Item 1) $______
f. Estimated income over operating costs (d minus e) $______
g. Estimated income over total costs (d minus Item 4) $______

PROJECTED DAIRY COW PRODUCTION COSTS IN 1981
(Average 12,000-14,000 pounds of milk)

	Per Cow[1]	Your Estimate
1. ESTIMATED OPERATING COSTS		
Grain ration[2], 8,000# x $.09	$ 720.00	$
Hay and haylage (hay equiv.), $10,000# x $.03	300.00	
Silage and green chop (as fed), 12,000# x $.01	120.00	
Pasture (AUM), 9 AUM x $7	63.00	
	$1,203.00	$
Veterinary and medicine	$ 28.00	$
Other livestock materials and services	125.00	
Machinery and equipment operation	55.00	
Utilities	34.00	
Insurance and personal property taxes	14.00	
Real estate repair and maintenance	24.00	
Miscellaneous	5.00	
Operating interest (½ operating costs x .12)	89.00	
Total cash costs except labor	$1,577.00	$
2. ESTIMATED OWNERSHIP COSTS		
Real estate interest, depreciation, & taxes	$ 45.00	$
Breeding herd interest	57.00	
Machinery and equipment interest and depreciation	58.00	
Total fixed costs	$ 160.00	$
3. LABOR COST (63 hrs. @ $4)	$ 252.00	$
4. ESTIMATED TOTAL COSTS	$1,989.00	$
5. ESTIMATED NET INCOME		
a. Avg. Grade A blend price/cwt. milk $		
b. Cwt. milk sold/cow ______ x avg. price/cwt. =		$
c. Avg. value of animal production ______ cwt. beef sold/cow x avg. beef price/cwt. ______		$
d. Gross income/cow (b + c)		$
e. Total operating costs (Item 1)		$
f. Estimated income over operating costs (d minus e)		$
g. Estimated income over total costs (d minus Item 4)		$

---

[1] Includes one cow and 1.3 head young stock weighing 500 lbs.

[2] Reflects purchase price.

Source: Ed Wiggins, UMC, November, 1980.

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COOPERATIVE EXTENSION SERVICE UNIVERSITY OF MISSOURI LINCOLN UNIVERSITY

HO-15
FBMA II

REMOTE COMPUTER PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617

FM-7831

Computer Systems: CMN
UMC

INPUT FORM FOR PIGFN

PIG FINISHING BUDGET AND RETURN TABLES

Line #

NAME ____________________ ADDRESS ____________________

1. A. Purchase MONTH, DAY, YEAR* ________, ________, ________,
   - B. Number head purchased .... ________,
   - C. Purchase weight/head--pounds ..... ________,
   - D. Purchase price/head .... ________,
   - E. Other buying costs/head .... ________
     (if included in price, enter 0)

2. A. Selling weight/head--pounds .... ________,
   - B. Expected selling price/cwt. .... ________,
   - C. Marketing costs/head .... ________

3. A. Use standard feed requirements .... ________,
   (1 = yes, 2 = no)
   - B. Percent protein in supplement .... ________,
   - C. Feed efficiency index .... ________
     (10 = excellent, 20 = good,
     30 = average, 40 = fair)

   If Line 3A = 1, skip Line 4 and go to Line 5.

4. Feed requirements/head
   - A. Corn--bu. .... ________,
   - B. Protein supplement--cwt. .... ________

5. Feed prices
   - A. Corn/bu. .... ________,
   - B. Protein supplement/cwt. .... ________,
   - C. Mineral and/or antibiotics-- .... ________
     "$/cwt.-gain" (enter 0 if included in protein supplement)

6. Interest rate on purchased feeders--% .... ________,
   Percent death loss .... ________

---

*For example, enter January 16, 1978, as 1, 16, 78.

7. A. **Other operating costs/head ($)** .... __________,
(vet., medicines, utilities, supplies, & repairs)
B. Desired return to labor and facilities/head .. __________

Enter only those lines you wish to change

20. Output following tables (0 = no, 1 = yes)
A. Budget (1)** .... __________,
B. Table 1-ret. at alt. buy-sell prices (1)__________,
C. Table 2-breakeven prices (1) .... __________,
D. Table 3-ret./head at different sale wts. (1) __________,
E. Table 4-ret./day at different sale wts. (0) __________,
F. Table 5-comparable pay prices at different slaughter weights (0) .... __________

21. Output Table 1 specification--return at alternate buy-sell prices
A. Number of lines in table (5) .... __________,
B. Feeder pig price interval--$ (2.00)... __________,
C. Slaughter price interval--$ (2.00) ... __________,
D. Lot basis = 0, head = 1 (1) .... __________

22. Output Table 2 specification: breakeven prices
A. Number of lines in table (5) .... __________,
B. Feeder pig price interval--$ (2.00) .. __________,
C. Grain price interval/bu. (.15) .... __________

23. Output Table 3 specifications: return per head at different sale weights
A. Number of lines in table (5) .... __________,
B. Slaughter price interval--$ (1.00) ... __________,
C. Animal weight interval (20 lbs.) ..... __________,
D. Lot basis = 0, head = 1 (1) .... __________

24. Output Table 3 specifications: return per day at different sale weights
A. Number of lines in table (5) .... __________,
B. Slaughter price interval--$ (1.00) ... __________,
C. Animal weight interval (20 lbs.) ..... __________,
D. Lot basis = 0, head = 1 (1) .... __________

25. Output Table 5 specifications: comparable pay prices at different slaughter weights
A. Number of lines in table (6) .... __________,
(this figure can't be altered)
B. Animal weight interval (20 lbs.) ..... __________,
C. Slaughter price interval ($1.00) ..... __________

30. Grain feed specifications
A. Grain: corn = 1, barley = 2, grain = 3 (1) .. __________,
B. Bushel weight of grain (56 lbs.) .... __________,
C. Percent protein in grain (8.7) .... __________

31. Protein content of ration
A. Pigs under 50 pounds (18 pct.) .... __________,
B. Pigs 50-125 pounds (16 pct.) .... __________,
C. Pigs over 125 pounds (13 pct.) .... __________

32. Grain adjustment as a percent of feed
A. Effective adjustment (50) .... __________

**Note: Numbers in parentheses are default values that will be used if no entry is used.

Estimated Family Living*

Item	Average of UMC MIR Farmers 1975	Your Estimate
1. Food	$ 3,360	
2. Clothing	960	
3. Household operation	1,209	
4. Household equipment and furnishings	1,037	
5. Household expense	340	
6. Personal items	1,998	
7. Recreation	322	
8. Education	224	
9. Medicine and Drugs	238	
10. Medical Insurance	603	
11. Doctor, Dentist	845	
12. Church, Charity	690	
13. Gifts	234	
14. Home share of auto	580	
15. Life Insurance	1,630	
16. Income Tax	1,452	
	$15,722	

*Average number of persons per household was 4.5

COOPERATIVE EXTENSION SERVICE **UNIVERSITY OF MISSOURI** **LINCOLN UNIVERSITY**

HO-17a
FBMA II

◄ REMOTE ◄ COMPUTER ◄ PLANNING

HOME ECONOMICS Gwynn Hall Columbia, MO 65211 Phone: (314) 882-7828

HE 7901

COMPUTER SYSTEM: UMC
SSPEN1 CMN

SSPEND

(SPEEDY SPEND INPUT FORM)

Your first name ______________________

Number of persons in household .... ________

Number of cars in household .... ________

Number of pay periods per year:
(Example: 12, 26, or 52) .... ________

Take home pay per pay period .... ________

Food expense per month .... ________

Monthly car payments .... ________

Rent or mortgage per month .... ________

Utilities per month .... ________

Other debts per month .... ________

Child care, etc. expense per month .... ________

(4/79)

COOPERATIVE EXTENSION SERVICE **UNIVERSITY OF MISSOURI** **LINCOLN UNIVERSITY**

HO-17b
FBMA II

◄ REMOTE ◄ COMPUTER ◄ PLANNING

HOME ECONOMICS Gwynn Hall Columbia, MO 65211 Phone: (314) 882-78

HE 7901

COMPUTER SYSTEM: UMC
SSPEN1 CMN

SSPEND

(SPEEDY SPEND INPUT FORM)

Your first name John

Number of persons in household 3

Number of cars in household 1

Number of pay periods per year:
(Example: 12, 26, or 52) 12

Take home pay per pay period 1200

Food expense per month 160

Monthly car payments 120

Rent or mortgage per month 250

Utilities per month 85

Other debts per month 200

Child care, etc. expense per month 50

(4/79)

UNIVERSITY OF MISSOURI LINCOLN UNIVERSITY U.S. DEPARTMENT OF AGRICULTURE AND LOCAL UNIVERSITY EXTENSION COUNCILS COOPERATING

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 2: Maximizing This Year's After-Tax Income

A. Review

The previous lesson, Planning Next Year's Livestock and Cropping Programs and Cash Flow, should be reviewed. Key items that caused problems during on-the-farm instruction should be emphasized. Also this is a good time to discuss problems enrollees may have encountered while preparing their Form 27, Cash Flow, for this lesson (refer to information presented in Lessons 3, 4, and 9 of Unit I). Investment credit, based on useful life and cost basis, may need to be reviewed also (Lesson 5, Unit I). Conclusions from the previous lesson may have included:

1. Budgets for crop and livestock enterprises should be developed annually.
2. This year's cash flow summary provides the base for planning next year's cash flow.
3. Budgets for owned and rented crop land should be developed separately.
4.
5.

B. Objective

To make year-end tax management decisions in order to maximize after-tax income.

C. Motivation

Tell the enrollees that by estimating their receipts and expenses before the end of the year they have an opportunity to maximize after-tax income. This can be done by determining if a shift in either income or expense from this year to next year will decrease their total tax payments and also be a sound management decision. (Buying machinery not needed to get investment credit may lower total farm income.)

For example, let's consider a family of four that has a net farm income of $24,000 one year and zero the next. If they take a standard deduction and no tax credits, they would pay $3,219 based on 1980 rates. The same family that earned $12,000 per year would pay $698 each year for a total of $1,396; or, have a tax savings of $1,823 as a result of planning. We can never achieve a perfectly level figure, but can work towards it. Also, since interest rates have gone up, the value of delaying taxes is larger. (It is the interest saved on taxes delayed.) Teacher note: Social security taxes are not considered above because they are the same in both situations.

In the long run it is advisable to level income yourself from one year to the next because income averaging is only beneficial if the income one year is 120 percent in excess of $3,000 above the average of the last four years.

D. Key Points

Key points which will be accomplished are as follows:

1. *How do I get my cash flow ready for completing a tax management analysis?*
2. *How is the TAXMGMT input form completed?*
3. *How is the information from the TAXMGMT input form entered into the computer?*
4. *How is the printout interpreted and adjustments made?*

E. Introduction of Information

Begin by telling enrollees that the majority of this lesson will concern procedures and methods necessary for utilizing and interpreting the computerized tax management program (TAXMGMT).

1. *How do I get my cash flow ready for completing a tax management analysis?*

The key to the successful use of this tax management program is accurate records up to the current month (usually October, November, or December at the time of this lesson). Information for the computerized tax management (TAXMGMT) program will be drawn from Form 27. Have the enrollees turn to Form 27 in their record books. Form 27, TM-3, may be used for explanations if necessary. Old tax forms are also helpful.

At this point Form 27 should be completed up to the end of the current month and the totals for each line and column checked for accuracy.

2. *How is the TAXMGMT input form completed?*

After the enrollees have their cash flows (Form 27) up to date, explain that the class will be working through an example tax management problem together. Having gone through the example, they should be able to complete their own tax management problem at home using their own figures

Distribute HO-18 (partially combined with TM-2), a blank TAXMGMT Input Form; HO-19 (combined with TM-3), An Example Cash Flow; and HO-20, Supplementary Information for the Tax Management Problem. Use TM-2 and TM-3 to work through the example with the class. The TAXMGMT Input Form with the example entries completed is included in the following pages.

The TAXMGMT input form requires the entry of 29 items in 7 lines. In addition, any changes in income or expense the next year are entered on lines 8 through 26.

a. Item 1--sales of purchased livestock and other items purchased for resale. To obtain this, several figures must be located and several calculations made.

    (1) Subpart A, total sales to date. It is the sum of purchased livestock receipts on lines 9, 10, and 11 from Form 27. Although it was not done in this example, it is permissible to mix the sale of purchased hogs and raised hogs on this line. In subpart A enter $39,933; cattle were the only purchased livestock as explained on supplement (HO-20).

    (2) Subpart B, estimated sales to end of year, is based on expected sales of purchased resalable items to be conducted before the end of the year. Enter -0-.

    (3) Subpart C, cost of items resold in subparts A and B can be calculated in two ways:

        (a) Determine the original cost of the items entered as sold in subparts A and B from Form 27, lines 39 to 41, of the year purchased.

        (b) Estimate the amount of original cost using the following formula: cost of purchased livestock on hand January 1 of current year plus the cost of purchased livestock on hand during current year minus the cost of purchased livestock on hand December 31 current year.

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FBMA II

Missouri Cooperative Extension Service   University of Missouri & Lincoln University

◄ REMOTE
◄ COMPUTER
◄ PLANNING

FARM MANAGEMENT   Mumford Hall   Columbia, Mo. 65201   phone 314-882-2617

FM-7942   COMPUTER SYSTEM: UMC

INPUT FORM FOR
TAXMGMT
(INCOME TAX MANAGEMENT PROGRAM)

Name EXAMPLE ; Address UMC

Line 1. Farm Income and Expense for Current Year

Item 1. Sales of purchased livestock and other items purchased for resale (Schedule F, Part I):

A. *Total sales to date* 39933
B. *Estimated sales to end of year* (+) 0
C. *Less cost of items resold in A & B* (-) 23400
Net Profit on Items Resold 16533,

Item 2. Farm sales and other farm income (Schedule F, Part I):

A. *Total sales to date* 70094
B. *Estimated sales to end of year* (+) 7800
Total Sales 77894,

Item 3. Farm deductions (Schedule F, Part II):

A. *Total farm expenses to date* 60562.60
B. *Estimated expenses to end of year* (+) 12143
C. *Estimated depreciation for year* (+) 5479.40
Total Farm Deductions 78185,

Item 4. Summary of ordinary and capital gains and losses (Form 4797 and Schedule D):

A. *Net ordinary gain or loss from Form 4797, Part II* 3
B. *Capital gain or loss from Schedule D* (+) 5855
Total Net Gain or Loss 2342
(40%)

(10/79)

UNIVERSITY OF MISSOURI LINCOLN UNIVERSITY U.S. DEPARTMENT OF AGRICULTURE AND LOCAL UNIVERSITY EXTENSION COUNCILS COOPERATING
an equal opportunity institution

Line 2. Non-farm earned income received by the farm operator:

Item 5.	Total wages and salaries	1040,
Item 6.	Amount of Item 5 subject to self-employment tax	0,
Item 7.	Amount of Item 5 on which FICA was withheld	1040,
Item 8.	Farm partnership income	0,
Item 9.	Other non-farm earned income (Schedule C, etc.)	0

Line 3 Other non-farm income:

Item 10.	Missouri income tax refund (if for year you itemized)	0,
Item 11.	Taxable dividends and interests	813.
Item 12.	Taxable rent and other non-earned income	0.
Item 13.	Spouse's federal adjusted gross income (if spouse had no income or not filing joint return enter '0')...	0

Line 4. Retirement plan contributions, itemized deductions, investment credit, and other tax credits:

Item 14.	Amount paid on Keough Plan or IRA account	0,
Item 15.	Estimated itemized federal deductions	0,
Item 16.	Purchases eligible for investment credit with: 3-4 years life	0,
Item 17.	: 5-6 years life	0,
Item 18.	: 7 or more years life ...	2197.
Item 19.	Amount of other tax credits (WIN, new jobs, energy, federal gas tax, etc.).	3.50

Line 5. Income averaging (enter "0's" if don't want to test income averaging):

Item 20.	Taxable Income: 1 year ago	14200,
Item 21.	: 2 years ago	7100,
Item 22.	: 3 years ago	3800,
Item 23.	: 4 years ago	1240

Line 6. **Other current year information:**

Item 24. Filing status (*1=single; 2=married filing joint return; 3=married filing separate return; 4=head of household; 5=qualifying widow(er)*) .... 2 ,

Item 25. Number of exemptions claimed .... 5 ,

Item 26. Is tax year complete? (1=yes; 0=no)... 0

Line 7. **Next year's tax conditions:**

Item 27. Filing status next year (code from Item 24) .... 2 ,

Item 28. Number of exemptions next year .... 5 ,

Item 29. After-tax discount rate (percent) 9

Lines 8-26. **Estimates of next year's tax changes:**
(*Enter item numbers and new values for next year's situation. Changes can be made for items 1-19. Enter 99 for item number when all changes have been entered*)

Line No.	Item Number	New Value
8	2	80000
9	3	74000
10	99	
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		

The figure obtained equals the cost of purchased livestock sold in the current year.

Enter $23,400 in subpart C; the supplementary information (HO-20) gives this figure as the original purchase price of the cattle.

The net profit on items resold, the last figure needed for Item 1, equals the sum of subparts A and B minus subpart C. Enter $16,533 ($39,933 + 0 - $23,400).

b. Item 2--total farm sales and other farm income. This item is a tabulation of all operating sales to date (Form 27, line A) minus the non-breeding livestock sales calculated in Item 1.

(1) Subpart A, total sales to date, equals the most current figure on line A of Form 27 minus total sales to date from subpart A of Item 1. Enter $70,094 ($110,227 - $39,933) in subpart A of Item 2.

(2) Subpart B, estimated sales expected before the end of the year. Enter $7,800 in subpart B. (This figure was given on HO-20, Supplementary Information).

Add figures in subparts A and B to get total sales and enter as Item 2. This equals $77,894 ($70,094 + $7,800).

c. Item 3--farm deductions. Begin with the figure on line E, Form 27.

(1) Subpart A, total farm expenses to date, equals the value from line E (Form 27) minus non-breeding livestock expenditures (because they were used in Item 1). Next deduct any part of utilities attributed to non-farm use. This equals $60,562.60 ($76,302 - $15,407 - $332.40). The $332.40 is 20 percent of line 34 on Form 27 because 20 percent of the utilities were for family use as explained on HO-20.

(2) Subpart B, estimated additional expenses for the remainder of the year. Total of estimated expenses to end of year from HO-3 equals $19,675, from which 20 percent of non-farm utilities, $32 ($160 x .20) and the cost of 30 more cattle ($7,500) were subtracted. The difference ($19,675 - $32 - $7,500) is $12,143. Enter this in subpart B.

(3) Subpart C, estimated depreciation for the year, can be determined two ways.

(a) If Forms 12 and 13 are complete, transfer the figure to subpart C.

(b) If this year's schedule of depreciation has not been completed use the following formula last year's depreciation minus 10 percent of last year's depreciation plus 20 percent of line F, Form 27. Thus in the example, $5,600 (last year's depreciation given on HO-20) minus $560 (10 percent of $5,600) plus $439.40 (20 percent of $2,197) equals $5,479.40. Enter $5,479.40 in subpart C.

Add subparts A, B, and C to get total farm deductions.

d. Item 4--summary of ordinary and capital gains and losses. In this item separate calculations of ordinary and capital gains or losses are calculated then combined to provide the figure for Item 5.

To summarize the gains and losses, an explanation of the difference between ordinary and capital assets is needed.

For income tax purposes, all property owned and used for personal purposes, pleasure, or investment is a capital asset. An intangible property right may also be a capital asset. Under special provisions, gains and losses from sales or other dispositions of ordinary assets used in the farm business and held more than one year or longer in the case of livestock are often thought of as capital assets.

Ordinary assets are items held for sale in the ordinary course of the farm business (on Schedule F) such as land and depreciable properties used in farming. The property is generally held for one year or less.

(1) The first entry needed for subpart A is net ordinary gain or loss. To obtain this figure go to lines 14-17 of Form 27 and determine which items will fit the definition of ordinary assets. An example to use would be a boar sold after being depreciated. To determine the net gain or loss use the following formula: gross sales price minus expense of sale minus cost or other basis minus depreciation.

From HO-20, a boar was sold for $243, bought for $450, depreciated for $210 and had a remaining value of $240. Thus, subpart A equals $3.

(2) Subpart B, capital gain or loss. Capital gain is calculated like ordinary gain except the conditions for including items are different. For example, raising breeding livestock for on-farm use and then selling them after 2 to 3 years of service would qualify. If the items were purchased, deduct the original cost (found on lines 42-45 on Form 27) in the year of purchase. Subtract the sale price ($243 used above) from line B of Form 27 ($6,098). This equals $5,855. Total capital gains is figured on 40% of the gain ($3 + $5,855 = $5,858 x .40 = $2,342). Enter $2,342 for Item 4.

e. Item 5--total wages and salaries. This is the first entry on the second line of input in the TAXMGMT program. On this line the non-farm earned income of the farm operator should be entered. This value would have to be divided out of line 19 of Form 27--non-farm receipts. An example would be an hourly rate paid for working at an auction barn. From HO-20 we know the farmer earned $20 a week. Thus, enter $1,040 for Item 5 ($20 x 52 weeks).

f. Item 6--amount of Item 5 subject to self-employment tax. If the income in Item 5 was not subject to FICA withholding or if only a portion of it was, enter the amount subject to self-employment tax in Item 6. In this example, all of Item 5 had deductions for FICA so enter a zero for Item 6.

g. Item 7--amount of Item 5 on which FICA was withheld. If all or part of Item 5 was subject to FICA withholding, then enter the dollar amount that was subject in Item 7. In this example the entire amount in Item 5 had FICA withheld. Enter $1,040 in Item 7.

h. Item 8--farm partnership income. If all or part of the income is in the form of partnership income, it must be entered separately from regular farm income. It is possible for all the income to be entered here, so take the value from IRS Form 1065 when entering the figure. None of the income in the example is farm partnership income so enter a zero for Item 8.

i. Item 9--other non-farm earned income. Included under this item would be any income produced by the farmer that would not fit under Items 1, 2, 5, or 8. Self-employment income outside of a wage or salary situation would be included in this item. As in Item 8, this is not the case in the example; therefore, enter a zero for Item 9.

j. Item 10--Missouri income tax refund (if you are itemizing). When receiving a Missouri income tax refund this year and itemizing on the tax return, enter the refund amount in Item 10. This is the first entry on line 3.

k. Item 11--taxable dividends and interests. Check line 47 of Form 27 for any investments where interest or dividends may be forthcoming. Interest on savings, saving certificates, etc., all generate interest income which may or may not be taxable. Look carefully at each item and then total the taxable portion and enter as Item 11. In the example, $813 interest income is listed on HO-20 from a certificate of deposit which is entered as Item 11.

l. Item 12--taxable rent and other non-earned income. This value could have been included in line 19 (non-farm receipts) of Form 27. Rental of pasture to a neighbor would be entered here. The non-earned portion could be from a pension. For this example, there was no taxable rent or other non-earned income so enter a zero for Item 12.

m. Item 13--spouse's federal adjusted gross income. Enter the gross income of the spouse of the farm operator IF the couple files jointly. This value, again, could be under line 19 of Form 27. The income is considered to be non-farm and could be wages and salaries OR self-employed income. In this example, the spouse is not employed or self-employed off the farm so enter a zero in Item 13.

n. Item 14--amount paid on Keough Plan or IRA account. This is the first entry on line 4 and deals with approved retirement plans that will yield tax benefits from the IRS. The amount set aside has rules based on the type of plan used.

A Keough Plan, generally, is a qualified retirement plan that includes self-employed persons; the plan must be written and it must cover the employees. Check Publication 560--Tax Information on Self-Employed Retirement Plans for details. If a plan qualifies, an annual deduction up to 15 percent of net earnings from self-employment, up to a maximum of $7,500, can be taken. If net earnings are under $15,000, a minimum contribution of the lessor of

$750 or 100 percent of your net earnings may be made. The amount contributed is deductible for that tax year.

An individual retirement arrangement (IRA) can be set up if you haven't participated in another retirement plan during the year. The arrangement must be approved by the IRS and does not require you to contribute to your employee's plan. If you are eligible take a deduction annually of up to 15 percent of net earnings or a maximum of $1,500. Use Publication 590, Tax Information on Individual Retirement Arrangements as a reference.

o. Item 15--estimated itemized federal deductions. The information requested here is all non-farm deductions the farmer is qualified to deduct. Examples include medical expenses, cash contributions to approved charities, and interest on home loans (not part of farm). Remember, the deductions must total over $2,300 for a single return, $3,400 for a married joint return or qualifying widow(er) with child, and $1,700 for married individuals filing separately before an advantage is possible. In this example the minimum was not attained; therefore, enter a zero for Item 15.

p. Item 16--purchases eligible for investment credit with 3-4 years of life. Items 16, 17, and 18 are used to enter property available for investment credit. (Use TM-47 from Lesson 5 of Unit I if an explanation of cost basis, useful life, and investment credit is needed.)

If you acquired new or used depreciable property for use on the farm and placed the property in service during the tax year, you may qualify for the regular investment credit. The regular investment credit allowable is 10 percent of the eligible investment. It is limited to the income tax shown on the tax return, or to $25,000 plus 70 percent of the tax over $25,000. If property is disposed of before the end of its estimated useful life, credit may be recaptured or excess credit paid back. Publication 572, Investment Credit and Forms 3468--Computation of Investment Credit and 4255--Recapture of Investment Credit may be helpful in the presentation of this part. Also refer to Lesson 5 of Unit I, Establishing a Farm Accounting System.

On Form 27 of the record book lines 42 to 45 would contain items that may qualify for investment credit. If the expected life of the qualifying property is from 3 to 4 years it would be entered in Item 16. (The investment credit allowed will be based on 33 1/3 percent of the value.) In this example, only two purchases qualifying for investment credit were listed and they are both depreciated over 7 or more years; therefore, enter a zero for Item 16.

q. Item 17--purchases eligible for investment credit with 5-6 years of life. Enter the value of all property purchased that will be depreciated out or sold in 5-6 years. Investment credit is calculated on 66 2/3 of original value. For the example tax management problem, enter a zero for Item 17.

r. Item 18--purchases eligible for investment credit with 7 or more years of life. Most major purchases will be held for over 7 years and are entered in this category. Even if a 7+ year life is questionable, the deduction now at 100 percent of value will yield more financial benefit, even if recapture by IRS is necessary if disposed of in less than the 7 years. On the example, Form 27, lines 42-45, two purchases were recorded. According to HO-20, the $1,245 was for hog feeders and the $952 was for new fences. Both purchases are eligible for investment credit and are depreciated over 7 or more years; thus, enter $2,197 in Item 18 ($1,245 + $952).

s. Item 19--amount of other tax credits (WIN, new jobs, energy, federal gas tax, etc.).

(1) Credits for contributions to candidates for public office may not exceed $50 for single filing, or $100 for joint filing which is one-half of the farmer's gross contributions.

(2) Credit for the elderly may be claimed. See Schedules R and RP for further instructions.

(3) Work incentive program expenses (WIN) for hiring select employees qualifies for credit. See Form 4874 for further information.

(4) The farmer can get special credits for hiring special targeted groups. See Form 5884 and Publication 906 for further information.

(5) Residential and alcohol fuel credits are available. See Form 6478 for further information.

This is the last entry on line 4 and in most cases will only have fuel taxes entered. From HO-20, the only entry for this item was for federal gas tax in the amount of $3.50.

t. Item 20--taxable income 1 year ago. An option available to the user of the TAXMGMT program is income averaging. If the expected income this year is 20 percent greater than the average of the last four years, averaging can help to lower the taxes owed. It should be noted here that you can save the 20 percent by averaging your income yourself, if it is possible. Averaging is usually used in a bumper crop year or any year of an abnormally high income. Use HO-20 to aid in the averaging.

To determine taxable income for 1 year ago, use the following formula: taxable income for 1 year ago = adjust gross income (from Form 1040) - (exemptions x $1,000).

In this example, the taxable income 1 year ago has already been calculated; thus, enter $14,200 for Item 20.

u. Item 21--taxable income 2 years ago. Repeat the procedure from Item 20 if the year is 1979 or later. Enter $7,100 for the example.

v. Item 22--taxable income 3 years ago. To obtain this figure, substitute $750 for $1,000 in the formula when figuring the taxable income because the 1978 exemption allowance was only $750, not $1,000. Again this figure is given on HO-20; enter $3,800 in Item 22.

w. Item 23--taxable income 4 years ago. The exemptions for 1977 were the same as 1978, $750. Be careful to note the changes in the exemption credit from year to year in order to receive the maximum benefit from the TAXMGMT program. Enter $1,240, the figure given on HO-20.

This program could also be used to adjust past taxes up to three years ago. If it is used in this capacity and the year 1976 is used in income averaging, the taxable income figure can be taken directly from the tax forms without correcting for exemptions.

x. Item 24--filing status. This is the first entry on line 6, and concerns the filing status of the farm operator. The filing status is important in that it is used to determine the tax table which should be used and the exemption limits allowed. It can also affect the way the farmer accomplishes effective income averaging. You may want to test different ways to use the filing status such as married with joint filing versus married with separate filing.

As shown on the form, the entries possible are single (enter 1), married filing joint return (enter 2), married filing separate return (enter 3), head of household (enter 4), and qualifying widow(er) (enter 5). From information given on HO-20, enter a 2.

y. Item 25--number of exemptions claimed. There are several categories of exemptions that may apply. Both spouses and children are the most common exemptions, but are by no means the only ones. A list of possible exemptions includes:

(1) Yourself

(2) Spouse--look carefully here if you are filing separately.

(3) 65 or over

(4) Blind

(5) Dependent children--if your children live with you or you provide over half of their income while living away from home, you can probably claim them.

(6) Other dependents--this can get difficult depending on the income and amount of time spent in your home by the individual. Check carefully before claiming.

For this example, enter a 5 (self, spouse, 3 children).

z. Item 26--is the tax year complete? (1 = yes, 0 = no) To be able to shift income or expenses the tax year should not be complete. If a final tax calculation is desired enter 1 for yes and it will run without the shifting option. To allow for the chance to shift later enter a 0 for no. This is the last entry for line 7. For this example, enter a zero because we want to be able to shift.

aa. Item 27--filing status next year. When the future year information is calculated there is a possibility that the filing status may change. An example may be a farmer getting married or deciding to file separately. The choices are the same as in Item 24. This item starts line 7 of the input. In the example, there are no changes so enter 2 as was done in Item 24.

bb. Item 28--number of exemptions next year. The number of exemptions will be achieved by the same method used in Item 25. Changes might include the birth of a child. There are no changes in this example so enter a 5 as in Item 25.

cc. Item 29--after-tax discount rate (percent). This rate is used to discount your estimate of next year's taxes in order to equate tax savings then with tax savings now. To calculate the discount rate, determine the highest rate of return expected from money before taxes, then reduce this total by the percent taken by taxes.

First, determine the maximum interest rate you can receive on investments. Next, check your marginal tax rate by summing your federal, state, and self-employment tax percentages; reduce this percentage sum to decimal form. Use these figures in the following formula to calculate the after-tax discount rate: discount rate = interest percentage x (1 - marginal tax rate).

For this example the interest rate is 13 percent (given on line 47 of HO-20) and a marginal tax rate of 33 percent is used. Thus, enter 9 [13% x (1.00 - .33)].

If the purpose of running the TAXMGMT program is only to determine a one year income tax estimate, then stop here. If switching is desired, then make estimates of next year's tax changes on lines 8-26 as follows:

dd. Lines 8 to 26--estimates of next year's tax changes. If a two year tax comparison with income shifting is wanted, then lines 8 to 26 are where the changes of income, expenses, etc., are to be entered. The program will allow you to change the figures in Item 1-19 ONLY! Use the following procedure to make changes:

(1) When the computer asks for an entry on line 8 enter the number of the item to be changed (1 to 19) and the new value for that item.

(2) Continue making changes line by line until all changes have been made. When no more changes are desired, enter 99 as the last item number. This will stop entries and tell the program to start calculating.

On HO-20 the estimates given for next year are $80,000 in sales and $74,000 in expenses. Since a change in farm sales and other farm income is desired, enter a 2 for the item numbers (see the first page of the TAXMGMT input form) and enter $80,000 as the new value. The $74,000 is a farm expense or deduction so enter 3 as the item number (see the first page of the TAXMGMT input form) and $74,000 as the new value.

Since this is the last change to be made, enter 99 on the next line (10). Do not make a new value entry. The 99 keys the program that no more entries are forthcoming and it can begin calculations.

3. *How is the information from the TAXMGMT input form entered into the computer?*

All figures discussed in the example tax management problem should have been recorded by each enrollee on the blank input form (HO-18). You may want to allow them a few moments to check their figures with those that have been entered on the overhead transparency copy. Use TM-4, Input Entry for Example Tax Management Problem, to explain the following points concerning entering data:

a. Only the data from blanks in the far right column are to be entered into the computer. The other blanks such as subparts A, B, and C are included only as workspace for hand calculations. However, on page 3 of the input form, both the item number and new value must be entered for lines 8-26.

b. Data is entered by line number. Each time a new line number appears on the input form the input should be shifted to the next line of input. For example, line 1 has four items which are entered (from the example given): 16533 77894 78185 2342. Space once between figures. All zero values must be entered; do not leave blanks in input (note error message by the computer on TM-4).

c. Push the return button after entering data and the next command will be printed.

d. If an error is made while making entries, wait until the computer requests error changes. This will occur immediately after 99 has been entered. If error corrections are necessary the computer will give instructions. (Note example of an error correction made on TM-4.)

If time permits, demonstrate running the program using a computer terminal; otherwise, use the transparencies and handouts of the printout to discuss the next key point.

4. *How is the printout interpreted and adjustments made?*

Distribute HO-21, Output for Example Tax Management, so the enrollees have a copy to refer to as the line items are discussed. The output can also be used as a transparency (TM-5) to supplement the discussion of this key point.

a. The federal income tax figures for this year and the coming year are tabulated in the first part of the printout.

   Gross farm profit is the sum of sales of items purchased for resale and general farm sales ($94,427). Adding to this figure the $23,400 that the animals cost will yield the year-end figure for Operating Sales, line A, Form 27--Cash Flow ($117,827). All the other figures are self-explanatory since they are simple additions and subtractions. The first important figure is the federal taxable income, the last line of this section of the printout.

b. The next part of the printout displays the federal tax due both with and without income averaging, provides the marginal tax rate, and deducts all credits due.

   (1) Federal tax due without averaging is calculated using tax tables--Schedules X, Y, and Z. The marginal tax rate is provided beneath each figure.

   For an example of using the marginal tax rate, a married joint return (1980) with $20,437 federal adjusted gross income (or $15,437 taxable income) is in the $11,900 to $16,000 range. The tax is $1,404 + 21% for over $11,900 for a total tax of $2,147.

   (2) Federal tax due with averaging reduces the tax in both cases because the income for the previous four years were all substantially lower, as shown on HO-20 (1980--$14,200; 1979--$7,100; 1978--$3,800; 1977--$1,240).

   (3) Federal tax due is the lesser of the two methods (with and without averaging). Since $2,040 is the lesser of the two and was established with averaging, income averaging is beneficial.

   (4) Net tax due after credit is calculated by the appropriate method. Investment credit and other credits are deducted directly from the tax due. Examples of credits deducted include: WIN, energy, federal gas tax, etc.

c. The next part of the printout includes social security taxes. These are automatically calculated on all net earnings both through FICA and self-employment taxes. Self-employment net earnings and wages and salaries subject to FICA are calculated separately with only the self-employment (abbreviated by S.E on the printout) tax due and the marginal rate being important at this time [Schedule SE (Form 1040)].

Self-employment tax due is calculated by multiplying the lower of the maximum taxable self-employment income or the taxable self-employment net earnings by the self-employment marginal rate. Since the taxable self-employment net earnings is the lower figure, it was used to determine the self-employment tax due ($16,242 x 8.10% = $1,316; $22,533 x 9.30% = $2,096).

d. The next part of the printout, Missouri income tax, is based on the federal adjusted income minus the federal income tax and exemptions. In this case the Missouri taxable income totals $11,396 yielding a tax of $459 at the marginal tax rate of 6 percent.

e. The next two lines gives the total amount of tax due and the combined marginal tax rate.

(1) Total tax due after credits is the sum of federal tax due, self-employment tax, and Missouri income tax. Total tax due after credits was $3,592 in 1980 and $6,091 in 1981.

(2) The combined marginal tax rate is calculated by summing the marginal rate with income averaging (because it was lower in this case), self-employment rate--8.1 percent, and the Missouri rate.

f. The total tax discounted at 9 percent indicates the savings possible if taxable income were to be shifted from present to future years. The difference in the 1981 figures of $6,091 not discounted and $5,588 discounted shows that $503 could be used by the farmer if the tax load was not increased in the current year. The opportunity to make the $503 with the taxes, if shifted to the current year, would be lost.

g. The printout next shows how much income is needed to change the federal tax rate. These figures will vary greatly depending on whether or not income averaging is used.

(1) If income averaging is not used, the amounts to shift reflect the tax tables normally used to

calculate taxes. For example, for the taxable income of $15,437 (for married filing a joint return) to decrease to a lower rate income requires that income decrease by $3,537 (lower limit $11,900 subtracted from $15,437). To raise the income level to a higher tax bracket income requires that the income increase by $563 ($16,000 - $15,437)

(2) If income averaging is used in calculating the federal tax, the computer program will average any increase or decrease over the five year averaging period, thus making it more difficult to effect a change in the tax rate. Income averaging was used in this example and the figures reflect this: $7,838 in 1980 and $9,829 in 1981.

h. The program performs some automatic shifting of expense to 1981. In increments of $1,000 the computer automatically recomputes the taxes for 1980 and 1981. In this case, little difference is noticeable because income averaging was used. This spreads the expenses over 5 years in the first example. The program stops computing shifts when figures indicate the shift is not feasible; therefore, the next to last line of this section is the optimum situation.

(1) The expense shifting to 1981 indicates that the lowest net tax liability is achieved when $18,345 in expenses is shifted from 1980 to 1981. This figure is based on the total tax column under the discounted column ($8,885). It appears at first glance that the shifting of $15,829 has a lower 2 year tax total, but remember the loss of use of money paid in 1980 versus 1981. At this point it becomes more profitable to invest the money yourself rather than paying it in early taxes.

(2) The amount to be shifted must have been entered at the beginning of the program. For example, if it is possible to defer the purchase of $5,000 worth of feed until after the first of the year it would be reflected in the results above. If the farmer were only thinking of purchasing, the effect would not be the same because the calculations are based only on entered data.

i. As a special option in the program, the user is offered the chance to shift income in either direction: 1980 to 1981, or 1981 to 1980. This option is only available if on line 6, Item 26, a zero was entered. This entry tells the computer the tax year is not complete.

(1) To shift income from 1980 to 1981 enter the amount as a negative number. Any amount can be shifted so keep a list of shiftable incomes on hand for more accurate results than arbitrary shiftings of $1,000 or the like. The computer will then recalculate the net tax liability and marginal rates for 1980, 1981, and 1981 discounted.

(2) To shift from 1981 to 1980 enter the changes in income as a positive figure.

(3) To stop shifting enter a -0-.

Now that the printout of the tax management program has been reviewed, what options are available for altering the figures so they are more beneficial to the taxpayer.

j. Use TM-6, Methods of Tax Management, to briefly review tips which improve tax planning and management. Several specific comments are necessary:

(1) It is important to level income because:

(a) In a year of high income, tax is calculated at a higher percent of income.

(b) In a year of low income, personal deductions and exemptions will be lost.

(2) To use investment credit advantageously:

(a) Estimate life on the long side.

(b) Depreciate an item and use investment credit for items of $50 or more.

(c) Take investment credit on all qualifying items (especially when purchasing a farm).

(3) Suggestions on using depreciation advantageously include:

(a) Accelerate depreciation if tax is owed.

(b) Use a shorter life if tax is owed.

(4) To use capital gains advantageously:

(a) Use gilts for one litter; then, sell and replace.

(b) Keep breeding cattle for 24 months.

(c) Keep income producing property such as farms rather than sell and buy another.

(5) Distribute and review HO-22 (combined with TM-7), Tax Check List.

k. Use TM-8 and TM-9 to introduce some specific examples of increasing and decreasing income.

F. Group Discussion

Use the input forms, tax forms, and printed output to discuss the tax options available to the farmer to minimize the tax liability. After running a sample program discuss the possible ways of shifting both income and expenses. Be sure to include the following items:

1. Resale items
2. Depreciation
3. Investment credit
4. Capital gains
5. Self-employment tax
6. Retirement plans
7. Special tax credits
8. Income averaging
9. Deferment of sales and purchases.

G. Conclusions

Conclusions which can be drawn from this lesson include:

1. The tax management program offers the opportunity to acquaint enrollees with tax planning and management.
2. Options are available to the taxpayer for controlling taxes, not just paying them without control.
3. Good records of investment credit, depreciation, capital gains, etc., are essential for effective tax management.
4.
5.

Announcements

Social

On-the-Farm Instruction

A good follow-up to this lesson is to work individually with each enrollee on his/her tax analysis. Run the program for each individually and explore the options in the discussion section. Teachers that do not have access to a terminal may mail the input forms to the Agricultural Education office at the University of Missouri-Columbia. The program will be run and the results returned by mail.

Materials Needed

Instructor

TM-2, TAXMGMT Input Form (blank) (partially combined with HO-18)
TM-3, Example Cash Flow, Form 27 (combined with HO-19)
TM-4, Input Entry for Example Tax Management Problem
TM-5, Output for Example Tax Management Problem (combined with HO-21)
TM-6, Methods of Tax Management
TM-7, Tax Check List (combined with HO-22)
TM-8, Methods to Increase Income
TM-9, Methods to Decrease Income
Computer terminal (optional)

For additional information, the following forms and publications (except for the Doane's guide) are available from the IRS:

Publication 506--"Income Averaging"
Publication 560--"Tax Information on Self-Employed Retirement Plans"
Publication 572--"Investment Credit"
Publication 225--"Farmer's Tax Guide"
Form 3468--Computation of Investment Credit
Form 4255--Recapture of Investment Credit
Form 1065--Partnership Return
Tax Guide for Farmers by Doane Agricultural Service (St. Louis)

Student

HO-18, TAXMGMT booklet (partially combined with TM-2)
HO-19, Example Cash Flow, Form 27 (combined with TM-3)
HO-20, Supplementary Information for Tax Management Problem
HO-21, Output for Example Tax Management Problem (combined with TM-5)
HO-22, Tax Check List (combined with TM-7)
Missouri Farm Business Analysis Record Book

FORM 2 **CASH FLOW** FINANCIAL PLAN OR [✓ SUMMARY]

	LINE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.	TOTAL
RECEIPTS														
Crop Sales Wheat	1						1715							1715
Fescue Seed	2						3124							3124
	3													
	4													
Gov't Payments	5													
Custom Work	6							2411						2411
Dividends, Refunds, Resales	7													
Cash Rent, Other Farm	8													
Non-Brdg. Livestock Sales	9													
Cattle	10									36828	3105			39933
Hogs	11	4163	7493	3794	7188	3938	6970	4600	7910	4490	7898	4400		110027
Livestock Products	12													
	13													
OPERATING SALES TOTAL (add lines 1 through 13)	A	4163	7493	3794	7188	3938	11809	7011	7910	41318	11003	4400		110027
Breeding Livestock Sales	14													
Hogs	15			1894			1911			243		2050		6098
	16													
Mach., Equip., Bldgs. Sold	17													
CAPITAL SALES TOTAL (add lines 14 through 17)	B			1894			1911			243		2050		6098
TOTAL FARM RECEIPTS (line A plus B)	C	4163	7493	5688	7188	3938	13720	7011	7910	41561	11003	6450		116125
MONEY BORROWED summary only	18		1500								13000	5500		20000
NON-FARM RECEIPTS	19	87	83	87	87	87	87	87	87	87	87	87		953
TOTAL DOLLARS AVAILABLE	D	4250	9076	5775	7275	4025	13807	7098	7997	41648	24090	12037		137078
EXPENDITURES														
Feed	20	2412	2615	2211	2275	2304	2310	2105	2475	2280	26275	2411		49673
Vet., Med	21	122	75	30	40	71	110		30					478
Breeding Fees, Registr.	22													
Fertilizer, Lime	23		210				910				280			1400
Crop Chemicals	24						130							130
Seeds, Crop Supplies	25		113				78							191
Machinery Repair, Maint.	26	122		50	85		412		65		50			784
Building, Fence Repair	27		150		322		74		71	65	141	128		951
Machinery, Truck Hire	28													

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TM-3
HO-19
FBMA II

Cash Rent	29													
Power Fuel, Oil, Grease	30	140	175	160	275	24[illegible]	200	428	170	270	135	140		[illegible]333
Hired Labor	31													
Insurance	32				420					220				640
Taxes	33													
Utilities	34	161	148	175	135	138	163	160	152	140	150	140		1662
Truck Expenses	35	42	53		110	40	56		112			102		515
Auto Expenses	36													
Misc. Farm Expenses	37		232	105		80	94		190	87		150		938
Interest (existing obligations)	38		1200											1200
Non-Breeding Livestock	39													
Cattle	40										7267	8140		15407
	41													
OPERATING EXPEND. TOTAL (add lines 20 through 41)	E	2877	5018	2776	3652	2842	4498	2803	3235	3142	34248	11211		76302
Breeding Stock Purchases	42													
	43													
Mach. and Equip. Purchases	44										1245			1245
Land and Bldg. Imprvm'ts	45		952											952
CAPITAL EXPENSES TOTAL (add lines 42 through 45)	F		952								1245			2197
TOTAL FARM EXPENSES (line E plus F)	G	2877	5018	3728	3652	2842	4498	2803	3235	3142	35493	11211		78499
PRINCIPAL PAID existing obligations	46	1000	2000	1500	3500		8500	3500	4000	340				24340
NON-FARM EXP. AND INVEST.	47									25000				25000
FAMILY LIVING	FL	842	1689	520	258	910	840	423	610	875	1123	833		8923
TOTAL DOLLARS USED (add lines G through FL)	H	4719	8707	5748	7410	3752	13838	6726	7845	29357	36616	12044		136762
CASH DIFFERENCE FOR MONTH (line D minus H)	I	-469	369	27	-135	273	-31	372	152	12291	-12526	-7		316
CASH BALANCE BEGINNING OF MONTH (line N last month)	J	725	256	627	652	517	790	759	1131	1283	13574	1048		
CASH AVAILABLE BEFORE BORROWING (line J±I)	K													
SHORT-TERM LOAN PROCEEDS (if line K is negative)	L													
SHORT-TERM LOAN REPAYMENTS (if line K is positive)	M													
CASH BALANCE END OF MO. (line K plus L minus M)	N	169	455	395	173	359	241	526	591	12795	182	88		
SHORT-TERM CREDIT BALANCE line O last month plus L minus M	O	19840	21340	19840	16340	16340	7840	4340	340	0	13000	18500		
		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL

TM-3 (cont'd) 73
HO-19 (cont'd)
FBMA II

INPUT ENTRY FOR EXAMPLE TAX MANAGEMENT PROBLEM

```
C:U ENTER YOUR NAME : EXAMPLE

C:U ENTER YOUR ADDRESS : UMC
  C ENTER DATA FOR LINE 1
  U 16533 77894 78185 2342
  C ENTER DATA FOR LINE 2
  U 1040 0 1040 0 0
  C ENTER DATA FOR LINE 3
  U 0 813 0 0
  C ENTER DATA FOR LINE 4
  U 0 0 0 0 2197 3.50
 [C ENTER DATA FOR LINE 5
 [U 142007100 3800 1240
 [C NOT ENOUGH DATA ITEMS FOR LINE, REENTER LINE
 [U 14200 7100 3800 1240
  C ENTER DATA FOR LINE 6
  U 2 5 0
  C ENTER DATA FOR LINE 7
  U 2 5 9
  C ENTER DATA FOR LINE  8
  U 2 80000
  C ENTER DATA FOR LINE  9
  U 3 74000
  C ENTER DATA FOR LINE 10
  U 99

C:U YOU MAY NOW CHANGE ANY LINE THAT MAY BE IN ERROR
    ENTER 1 IF CHANGES ARE NEEDED, 0 IF NOT :0
```

C--INDICATES STATEMENT BY THE COMPUTER

U--INDICATES USER'S INPUT

[--NOTE HOW ERROR IN SPACING WAS CORRECTED

OUTPUT FOR EXAMPLE TAX MANAGEMENT PROBLEM

```
REMOTE COMPUTER PLANNING                   INCOME TAX MANAGEMENT
AGRICULTURAL ECONOMICS DEPT.               06/17/81
EXTENSION DIVISION                         EXAMPLE
UNIVERSITY OF MISSOURI                     UMC

FEDERAL INCOME TAX:                         1980      1981    2 YR. TOTAL
  GROSS FARM PROFIT                        94427     96533
  FARM DEDUCTIONS                          78185     74000
  NET FARM PROFIT                          16242     22533
  NET GAIN OR LOSS(SCH D & 4797)            2342      2342
  NET PARTNERSHIP INCOME
  NET NON-FARM INCOME                       1853      1853
  SPOUSE'S INCOME
  LAST YEAR'S STATE TAX REFUND
  SUBTOTALS                                20437     26728
  RETIREMENT PLAN PAYMENTS
  FED ADJUSTED GROSS INCOME                20437     26728
  EXEMPTIONS AND DEDUCTIONS                 5000      5000
  FEDERAL TAXABLE INCOME                   15437     21728

  FED TAX DUE W/O AVERAGING                 2147      3701
    MARGINAL TAX RATE                        21%       28%
  FED TAX DUE WITH AVERAGING                2040      3467
    MARGINAL TAX RATE                        18%       21%
  FED TAX DUE(LESSER OF ABOVE)              2040      3467       5508
  INVESTMENT CREDIT                          219       219
  OTHER TAX CREDITS                            3         3
  NET TAX DUE AFTER CREDITS                 1817      3245       5062


SOCIAL SECURITY TAXES:
  TAXABLE NET FARM INCOME                  16242     22533
  NET PARTNERSHIP INCOME
  WAGES&SAL. SUBJECT TO S.E. TAX
  OTHER NON-FARM EARNED INCOME
  SELF EMPLOYMENT NET EARNINGS             16242     22533
  MAX TAXABLE S.E. INCOME                  25900     29700
  WAGES&SAL. WITH FICA WITHHELD             1040      1040
  TAXABLE SELF EMP NET EARNINGS            16242     22533
  SELF EMPLOYMENT TAX DUE                   1316      2096       3411

  SELF EMPLOYMENT MARGINAL RATE            8.10%     9.30%
```

```
MISSOURI INCOME TAX:
  FEDERAL ADJUSTED GROSS INCOME:
    FARM OPERATOR                        20437     26728
    SPOUSE
      TOTAL                              20437     26728
  MO. EXCESS ITEMIZED DEDUCTIONS             0         0
  FEDERAL INCOME TAX                      2040      3467
  PERSONAL & DEPENDENT EXEMPTION          7000      7000
  MISSOURI TAXABLE INCOME:
    FARM OPERATOR                        11396     16260
    SPOUSE
  MISSOURI TAX:
    FARM OPERATOR                          459       751
    SPOUSE
      TOTAL                                459       751      1209
  MISSOURI MARGINAL TAX RATE             6.00%     6.00%

TOTAL TAX DUE AFTER CREDITS               3592      6091      9683
COMBINED MARGINAL TAX RATE              32.10%    36.30%

TOTAL TAX DUE DISCOUNTED @  9%            3592      5588      9180

SHIFT IN INCOME NEEDED TO CHANGE FEDERAL TAX RATE

  FEDERAL TAXABLE INCOME                 15437     21728
    DECREASE TO LOWER RATE                7838      9829
    INCREASE TO RAISE RATE                8616      9628


NET TAX LIABILITY & MARGINAL RATES AFTER SHIFTING ◆EXPENSE◆ TO 1981.

                                                   2 YR.    DISCOUNTED @  9%
  AMOUNT    1980    1980      1981     1981        TOTAL     1981      TOTAL
  SHIFTED    TAX    RATE       TAX     RATE         TAX      RATE       TAX
        0   3592◆  32.10%◆    6091◆   36.30%◆      9683     33.30%     9180
     9829   6577◆  27.00%◆    2647    32.80%       9224     30.09%     9006
    10829   6834◆  27.00%◆    2331    32.30%       9165     29.63%     8973
    11829   7092◆  27.00%◆    2018    31.80%       9109     29.17%     8943
    12829   7349◆  27.00%◆    1708    [illegible].80%       9057     29.17%     8916
    13829   7607◆  27.00%◆    1402    31.30%       9008     28.72%     8892
    14829   7864◆  27.00%◆    1113    28.80%       8977     26.42%     8885
    15829   8121◆  27.00%◆     833    28.30%       8955     25.96%     8886

◆ INDICATES INCOME AVERAGING WAS USED.
```

METHODS OF TAX MANAGEMENT

1. MAINTAIN COMPLETE AND ACCURATE RECORDS.
2. MAINTAIN "EVEN" LEVEL OF INCOME.
3. USE INVESTMENT CREDIT AS A BENEFIT.
4. USE THE PROPER DEPRECIATION METHOD TO MATCH THE SITUATION.
5. USE CAPITAL GAIN PROVISIONS.
6. USE A CHECK LIST OF ALLOWABLE DEDUCTIONS TO BE SURE ALL ARE CLAIMED.
7. SECURE ADDITIONAL INFORMATION.

TAX CHECK LIST

A. DUES TO FARM ORGANIZATIONS.

B. COSTS OF FARM MAGAZINES AND OTHER REFERENCE AND BUSINESS MATERIAL.

C. FARM SHARE OF UTILITY (INCLUDING PHONE, ELECTRICITY, OFFICE PART OF HEAT) BILLS.

D. POSTAGE, STATIONERY, RECORDS, ETC.

E. OFFICE IN HOME (DEPRECIATION ON THAT PART, ELECTRICITY, HEAT, ETC.). CHECK FOR QUALIFICATIONS.

F. SAFE DEPOSIT BOX RENTALS FOR FARM USE.

G. WAGES TO CHILDREN (THIS HAS A LOT OF TAX SAVINGS IF YOU QUALIFY); AND/OR LET CHILDREN OWN LIVESTOCK, CROPS, ETC.

H. MILEAGE ON FAMILY CAR AT 20¢ FOR FARM BUSINESS (INCLUDING ATTENDING ADULT FARMER CLASSES).

I. MILEAGE ON FAMILY CAR AT 11¢ FOR CHARITABLE AND MEDICAL PURPOSES IF ITEMIZE DEDUCTIONS.

J. POLITICAL CONTRIBUTIONS.

K. DEDUCT THE COST OF A BABY SITTER SO THE SPOUSE CAN HELP WITH FARM WORK (CHECK LIMITATIONS).

L. SET UP A RETIREMENT PLAN (GET HELP ON THIS ONE).

M. USE "INCOME AVERAGING" ANY YEAR YOUR CURRENT INCOME IS SHARPLY HIGHER (GET AVERAGE INCOME FOR LAST 4 YEARS--MULTIPLY BY 120 PERCENT--IF CURRENT INCOME IS $3,000 MORE THAN THIS FIGURE GET SCHEDULE G OF 1040 AND FIGURE IT OUT).

N. INTEREST IN AN AMORTIZED LOAN.

O. CONSIDER ALTERNATIVE FORMS OF BUSINESS ORGANIZATION--PARTNERSHIP--CORPORATION IF TAXES ARE HIGH.

P. IF AGE 63 OR 64, CONSIDER DELAYING INCOME TO 65 TO GET DOUBLE EXEMPTION.

Q. AT RETIREMENT, SHIFT INCOME TO RENTS, INTEREST, ETC.

R. CHECK FOR "LOSS YEARS" IN THE PAST THAT COULD BE CARRIED FORWARD.

S. BE SURE TO DEDUCT COST OF PURCHASED LIVESTOCK THAT ARE LOST, STRAYED, STOLEN, OR DIED.

T. ITEMIZE ALL ENTRIES ON BANK DEPOSIT SLIPS.

U. MAKE AN ESTIMATE OF TAXES PRIOR TO YEAR'S END SO ADJUSTMENTS CAN BE PLANNED (USE FORMS ATTACHED).

V. USE "DEFERRED" RECEIPTS IF SALES ARE DUE TO DROUGHT, ETC., IN 1980.

W. CHECK FOR "EARNED INCOME CREDIT."

X. CHECK FOR EXCESS INVESTMENT CREDIT WHICH CAN BE CARRIED BACK (UP TO 3 YEARS) TO YEARS IN WHICH TAX WAS PAID.

METHODS TO INCREASE INCOME

A. SELL MARKETABLE GRAIN, LIVESTOCK, ETC., BEFORE DECEMBER 31.

B. POSTPONE EXPENDITURES AND INVESTMENTS UNTIL JANUARY 1.

C. WORK WITH SUPPLIERS TO PAY BILLS AFTER JANUARY 1.

D. FOREGO 20 PERCENT FIRST YEAR DEPRECIATION.

E. USE STRAIGHT LINE DEPRECIATION.

F. DO SOME OFF-FARM OR CUSTOM WORK.

METHODS TO DELAY INCOME

A. USE DEFERRED SALES CONTRACTS.

B. MAKE ADVANCE PURCHASES OF FEED AND FERTILIZER (MUST BE FIRM AND HAVE AN ADVANTAGE).

C. POSTPONE SOME SALES UNTIL NEXT YEAR.

D. USE 20 PERCENT ADDITIONAL FIRST YEAR DEPRECIATION.

E. PURCHASE NEEDED MACHINERY, EQUIPMENT, ETC., BEFORE END OF THE YEAR TO GET INVESTMENT CREDIT AND SOME DEPRECIATION.

F. USE ACCELERATED DEPRECIATION.

G. USE "INCOME AVERAGING" IF INCOME $3,000 ABOVE 120 PERCENT OF 4 YEAR AVERAGE.

TAXMGMT

(TAX MANAGEMENT)

Objectives

This program is designed to help farmers make year-end tax management decisions. It estimates taxes due for the current year and the immediate following year. It evaluates the tax effects of shifting income and expenses between the two years and examines the potential for income averaging. It is also possible to evaluate the tax effects of year-end capital purchases by adjusting expenses for additional depreciation and adjusting investment credit purchases.

Credits

This program was developed and written by Gerald Ehlmann, Programmer/Analyst, Department of Agricultural Economics, University of Missouri-Columbia. Extension Economists Leroy Rottmann and Norlin Hein were involved in program design. The program was patterned after a similar program developed by Earl Fuller and Dale Nordquist at the University of Minnesota.

Assumptions and Limitations of TAXMGMT Program

1. It is assumed that the basic tax regulations will not change next year.

2. It is assumed that no income is foreign to the United States or to Missouri.

3. Income for averaging purposes equals taxable income. No further adjustments are made.

4. If exemptions are claimed for blindness or age 65 and over on the federal return, exemptions for the Missouri return will be overstated.

5. City earnings taxes are not considered in computation of Missouri taxable income.

6. Alternative tax on capital gains and minimum tax are not considered.

7. Net operating loss and investment credit carryback and carryover are not considered.

Completing the Input Form

Page 1 of the input form is for entering income and expenses from the farming operation. Only the data from blanks in the far right column are to be entered into the computer. The other blanks are included only for your calculations. The amount to be entered in Item 4A & 4B is the amount that is entered on Form 1040(i.e. the taxable portion).

The program will test income averaging if values are entered on Line 5. To be eligible for income averaging: (1) you must have been a U.S. citizen or resident for the past five years; and (2) you must have furnished at least 50 percent of your own support for the same period. The program will check the income levels for eligibility. If you don't want to test income averaging, enter '0' on Line 5, otherwise enter your taxable income for the four preceeding years.

If the tax year is complete (Item 26) income shifting will not be tested.

On Line 7, Item 29, input your after-tax discount rate. This rate is used to discount your estimate of next year's taxes in order to equate tax savings then with tax savings now. Enter this number as a percent.

To estimate your discount rate, first consider what is the highest rate of return you can expect from your money before taxes. Savings bank interest puts a floor on this rate. Then reduce this total by the percent taken by taxes.

For example if you feel you can get a return of 12% before taxes on an investment in your business in the coming year and your marginal tax bracket is 33%, estimate your discount rate as follows:

After-tax discount rate = 12% x (1.00 - .33) = 8%

Estimates of next year's tax changes are entered on Lines 8 through 26. For the most useful analysis, you should make estimates of next year's income and expenses and enter them on these lines if different from this year. Enter the item number and the value for next year (e.g., if you "net profit from items resold" this year is $7000 and you expect it to be $4000 next year, enter 1 (for Item 1) and 4000 for the new value). When all changes have been entered, enter 99 for the item number.

The computer will then give you a chance to correct any input errors you may have made.

When all corrections have been made, the computer will start printing the results. The printout contains most of your input numbers so any errors should be easy to detect.

After the state tax summary, if the tax year is not complete, the program will do some income shifting. The total income for the two years will remain the same. The first shift will be the decrease needed to lower the federal tax rate in the year with the highest marginal tax rate. Additional shifts will be made in $1000 increments until the total tax due is greater than that of the previous shift.

At the end of the output, if the tax year is not complete, you will be given an opportunity to shift net income to or from the current year. Again, the total income for the two years will remain the same.

To shift net income from the current year to next year, or expense from next year to this year, enter a negative number. (You are decreasing the current year net income). To shift net income to current year, enter a positive number. When all shifts have been evaluated, enter an '0' for the amount to shift.

Computation of Taxable Income for Income Averaging (1979)

If your filing status was not the same in all years 1975-1979, see instructions for Schedule G (Form 1040) to compute taxable income.

Taxable Income for 1978 (1 year ago)

1. Amount from Form 1040 (1978) Line 34 or Form 1040A (1978) Line 10 .... ________
2. $750 times number of exemptions claimed in 1978 .... ________
3. Taxable income (subtract Line 2 from Line 1) ________

Taxable Income for 1977 (2 years ago)

1. Amount from Form 1040 (1977) Line 34 or Form 1040A (1977) Line 10 ...... ________
2. $750 times number of exemptions claimed in 1977 .... ________
3. Taxable income (subtract Line 2 from Line 1) ________

Taxable Income for 1976 (3 years ago)

Taxable Income = Form 1040 (1976) Line 47; or
Form 1040A (1976) Line 15

Taxable Income for 1975 (4 years ago)

If you used the tax tables for figuring your tax for 1975, use the form on the following page to compute taxable income for 1975.

If you did NOT use the tax tables--

Taxable Income = Form 1040 (1975) Line 47; or
Form 1040A (1975) Tax computation worksheet Line 5

Missouri Cooperative Extension Service

University of Missouri & Lincoln University

HO-18 (cont'd)
TM-2
FBMA II

◄ REMOTE ◄ COMPUTER ◄ PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617

FM-7942

COMPUTER SYSTEM: UMC

INPUT FORM FOR
TAXMGMT
(INCOME TAX MANAGEMENT PROGRAM)

Name ______________________; Address ______________________

Line 1. Farm Income and Expense for Current Year

Item 1. Sales of purchased livestock and other items purchased for resale (Schedule F, Part I):

A. *Total sales to date*
B. *Estimated sales to end of year* (+) ________
C. *Less cost of items resold in A & B* (-) ________
Net Profit on Items Resold .... ________,

Item 2. Farm sales and other farm income (Schedule F, Part I):

A. *Total sales to date*
B. *Estimated sales to end of year* (+) ________
Total Sales .... ________,

Item 3. Farm deductions (Schedule F, Part II):

A. *Total farm expenses to date*
B. *Estimated expenses to end of year* (+) ________
C. *Estimated depreciation for year* (+) ________
Total Farm Deductions .... ________,

Item 4. Summary of ordinary and capital gains and losses (Form 4797 and Schedule D):

A. *Net ordinary gain or loss from Form 4797, Part II* ________
B. *Capital gain or loss from Schedule D* (+) ________
Total Net Gain or Loss .... ________

(10/79)

Line 2. Non-farm earned income received by the farm operator:

Item 5. Total wages and salaries .... __________,

Item 6. Amount of Item 5 subject to self-employment tax .... __________,

Item 7. Amount of Item 5 on which FICA was withheld .... __________,

Item 8. Farm partnership income .... __________,

Item 9. Other non-farm earned income (Schedule C, etc.) .... __________

Line 3. Other non-farm income:

Item 10. Missouri income tax refund (if for year you itemized) .... __________,

Item 11. Taxable dividends and interests ..... __________,

Item 12. Taxable rent and other non-earned income .... __________,

Item 13. Spouse's federal adjusted gross income (if spouse had no income or not filing joint return enter '0')... __________

Line 4. Retirement plan contributions, itemized deductions, investment credit, and other tax credits:

Item 14. Amount paid on Keough Plan or IRA account .... __________,

Item 15. Estimated itemized federal deductions __________,

Item 16. Purchases eligible for investment credit with: 3-4 years life .... __________,

Item 17. : 5-6 years life .... __________,

Item 18. : 7 or more years life ... __________,

Item 19. Amount of other tax credits (WIN, new jobs, energy, federal gas tax, etc.). __________

Line 5. Income averaging (enter "0's" if don't want to test income averaging):

Item 20. Taxable Income: 1 year ago .... __________,

Item 21. : 2 years ago .... __________,

Item 22. : 3 years ago .... __________,

Item 23. : 4 years ago .... __________

Line 6. **Other current year information:**

Item 24. Filing status (*1=single; 2=married filing joint return; 3=married filing separate return; 4=head of household; 5=qualifying widow(er)*) .... ____________,

Item 25. Number of exemptions claimed .... ____________,

Item 26. Is tax year complete? (1=yes; 0=no)... ____________

Line 7. **Next year's tax conditions:**

Item 27. Filing status next year (code from Item 24) .... ____________,

Item 28. Number of exemptions next year .... ____________,

Item 29. After-tax discount rate (percent) .... ____________

Lines 8-26. **Estimates of next year's tax changes:** (*Enter item numbers and new values for next year's situation. Changes can be made for items 1-19. Enter 99 for item number when all changes have been entered*)

Line No.	Item Number	New Value
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		

SUPPLEMENTARY INFORMATION FOR TAX MANAGEMENT PROBLEM

Explanation of Key Points

Line 10--Purchase cost of cattle sold this year was $23,400

Line 11--All hogs were raised.

Line 15--The $1,894; $1,911; and $2,050 was the sale of raised sows--the $243 was sale of boar that had been purchased three years ago for $450. $210 depreciation had been claimed on him, also.

Line 44--$1,245 was new hog feeders.

Line 45--$952 was new fences.

Line 46--All of the entries were for short-term loans except the $2,000 in February which applied to an intermediate loan.

Line 47--Purchased $25,000 certificates of deposit for three months @ 13 percent.

Line 0---Owed $20,840 at start of year on short-term loan.

Line 34--Approximately 20 percent of utility costs were for family living.

Estimated Depreciation for Year = (Last year's depreciation minus 10%) + 20% of new capital items. Last year's depreciation = $5,600.

Gas Tax this year--$3.50

Taxable Income--1980--$14,200
1979--$7,100
1978--$3,800
1977--$1,240

Estimates an increase to $80,000 of sales next year and expenses of $74,000.

Non-farm job at livestock auction paying $20 a week, FICA withheld.

Filing status: married, filing a joint return; three children.

Plans for December

Sell hogs estimated value	= $ 7,800
Redeem Certificates of Deposit of $25,000 (plus interest of $813)	= $25,813
Pay for feed, estimated	= $ 3,200
Pay for veterinarian	= $ 75
Pay for fertilizer for next year	= $ 2,100
Pay for repairs	= $ 110
Pay for fuel	= $ 150

Pay for real estate taxes	= $	730
Pay for utilities	= $	160
Pay for truck expense	= $	50
Pay for miscellaneous expenses	= $	100
Pay for interest for year	= $	5,500
Pay for 30 more cattle	= $	7,500
Pay for principal on real estate loan	= $	3,000
Pay for family living	= $	900

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 3: Summarizing the Year's Records

A. Review

The previous lesson, Maximizing This Year's After-Tax Income, should be reviewed. List all conclusions reached at your last meeting. Possible conclusions may have included:

1. The tax management program offers the opportunity to acquaint enrollees with tax planning and management.
2. Options are available to the taxpayer for controlling taxes, not just paying them without control.
3. Good records of investment credit, depreciation, capital gains, etc., are essential for effective tax management.
4.
5.

B. Objective

To be able to properly summarize and complete the record book at the end of the year for computer analysis.

C. Motivation

1. Point out to the group that during the year they have worked hard to get receipts and expenditures recorded correctly. They have kept Form 27--Summary and Enterprise Forms 31, 32, and 33 up-to-date monthly. Explain to them that none of that work will be worth anything unless the figures are totaled, checked, and cross-checked accurately on all of the summary forms so that a meaningful end-of-the-year analysis of the farm business can be done.

   As an example, you might relate an experience in which you or a farmer has completed the Form 27--Summary only to find an error back in the expenditures section. In this case, all you can do is go back and correct all figures affected by the error. The further you go in completing the book, the harder it is to correct any error that may be made.

2. Administer the accompanying quiz, HO-23, as a motivating experience for enrollees. Discuss each item.

D. Key Points

Key points which will be accomplished are as follows:

1. *How are expenses and receipts on Form 27 totaled and cross-checked for summary and analysis?*

2. *How is enterprise Form 31 totaled and cross-checked?*

3. *How are enterprise Forms 32 and 33 totaled and cross-checked?*

E. Introduction of Information

Start the introduction of information by explaining to the enrollees that the main part of the lesson will be discussing how to summarize and complete each form. To help understand, we will use sample situations from previous lessons to aid in the discussion.

1. *How are expenses and receipts on Form 27 totaled and cross-checked for summary and analysis?*

   Form 27--Summary is the first form to be totaled and checked at the end of the year. It is a must that figures on Form 27 are correct, since most of the figures for income tax preparation come directly from it.

   a. Give enrollees a copy of HO-24 to use in the discussion. You might note that this is the same example used in the previous lesson except that here the figures for December have been added. Next show TM-10 in helping explain the procedures for completing the form. Tell the enrollees that basically three things need to be done when completing the Form 27. First, you must make sure that all figures to be entered on Form 27 from other forms must be accurate and must be transferred properly. Second, the totals should be run and cross-checked, and third, the figures should be balanced to be sure that no figures were left off. Guidelines for checking and completing Form 27 are as follows:

      (1) Make sure monthly totals have been transferred to Form 27 from Forms 2-5, 7-10, and the Family Living Section, Forms 24 and 25 for all months.

      (2) Run totals on all columns and make sure figures on total lines A through H are correct.

      (3) Total each line across and write the line total in the total column at the right.

(4) Make the following cross-checks:

- (a) Line A totals, January through December = totals of lines 1 through 13.
- (b) Line B totals, January through December = totals of lines 14 through 17.
- (c) Line C totals, January through December = totals of lines A plus B.
- (d) Line D totals, January through December = totals of lines C plus lines 18 and 19.
- (e) Line E totals, January through December = totals of lines 20-41.
- (f) Line F totals, January through December = totals of lines 42-45.
- (g) Line G totals, January through December = totals of lines E and F.
- (h) Line FL totals = totals of Forms 24 and 25 from Family Living Section for each month.
- (i) Line H totals, January through December = totals of Lines G through FL.

(5) Check completeness of entries (whether or not all receipts, expenses, etc., were entered in the record book):

- (a) If one checking account is used for farm and family, then--
  - 1) If money borrowed (line 18); non-farm receipts, including items such as non-farm salaries, sale of C.D.s, etc. (line 19); principal paid (line 46); non-farm expenses and investments including items such as retained patronage allocations, purchase of C.D.s, etc. (line 47); and, Family Living including social security, income tax, purchase of family capital items, and other family living expenses, are entered (and they should be)--then, the cash balance beginning of year (line J--January) plus or minus Cash Difference for year (line I--Total Column) should equal Cash Balance end of year (line N--December).

2) In almost every case, there will be a difference due to omissions of some entries--maybe all in family living. Check first for omissions of money borrowed, principal paid, non-farm income or expense. If these are okay, move on. If the family living was estimated, ask the enrollee if that figure plus or minus the difference (a) above would be realistic for family living. If the answer is yes, assume the entries on Form 27 are correct and proceed. If the answer is no, check for a missing entry. If a receipt, check deposit slips against entries. If an expense, check cancelled checks against entries. It is a judgment factor on how much difference to accept before proceeding. It could be pointed out to the enrollee that if it appears $3,000 expenses are missing and the family is in the 30% tax bracket, the extra taxes will be $900. This would justify spending some time finding the error. If the enrollee owes no tax and the error is relatively small, move on. If the family living was recorded, there still could be an error in it. However, if the enrollee is confident of this figure, proceed with the other steps outlined above.

b. Have enrollees complete the sample cash flow you have given them for the year as they would do in their own records. Have them use the procedures outlined above for adding and cross-checking. When they have all finished, have enrollees compare figures and discuss any problems encountered. Use the completed sample Form 27 on the following pages to aid in your discussion.

FORM 27 **CASH FLOW** **FINANCIAL PLAN OR SUMMARY**

	LINE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.	TOTAL
RECEIPTS														
Crop Sales Wheat	1						1715							1715
Fescue Seed	2						3124							3124
	3													
	4													
Gov't Payments	5													
Custom Work	6							2411						2411
Dividends, Refunds, Resales	7													
Cash Rent, Other Farm	8													
Non-Brdg Livestock Sales	9													
Cattle	10									36828	3105			39933
Hogs	11	4163	7493	3794	7188	3938	6970	4600	7910	4490	7898	4400	7800	70644
Livestock Products	12													
	13													
OPERATING SALES TOTAL (add lines 1 through 13)	A	4163	7493	3794	7188	3938	11809	7011	7910	41318	11003	4400	7800	117827
Breeding Livestock Sales	14													
Hogs	15			1894			1911			243		2050		6098
	16													
Mach., Equip., Bldgs. Sold	17													
CAPITAL SALES TOTAL (add lines 14 through 17)	B			1894			1911			243		2050		6098
TOTAL FARM RECEIPTS (line A plus B)	C	4163	7493	5688	7188	3938	13720	7011	7910	41561	11063	6450	7800	123925
MONEY BORROWED summary only	18		1500								13000	5500		20000
NON-FARM RECEIPTS	19	87	83	87	87	87	87	87	87	87	87	87	25900	26853
TOTAL DOLLARS AVAILABLE	D	4250	9076	5775	7275	4025	13807	7098	7997	41648	24090	12037	33700	170778
EXPENDITURES														
Feed	20	2412	2615	2211	2275	2304	2310	2105	2475	2280	26275	2411	3200	52873
Vet., Med	21		122	75	30	40	71	110		30			75	553
Breeding Fees, Registr.	22													
Fertilizer, Lime	23		210				910				280		2100	3500
Crop Chemicals	24						130							130
Seeds, Crop Supplies	25		113				78							191
Machinery Repair, Maint.	26	122		50	85		412		65	50			110	894
Building, Fence Repair	27		150		322		74		71	65	141	128		951
Machinery, Truck Hire	28													

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FBMA II

Cash Rent	29													
Power Fuel, Oil, Grease	30	140	175	160	275	240	200	428	170	270	135	140	150	2483
Hired Labor	31													
Insurance	32				420					220				640
Taxes	33												730	730
Utilities	34	161	148	175	135	138	163	160	152	140	150	140	160	1822
Truck Expenses	35	42	53		110	40	56		112			102	50	565
Auto Expenses	36													
Misc. Farm Expenses	37		232	105		80	94		190	87		150	100	1038
Interest (existing obligations)	38		1200										5500	6700
Non-Breeding Livestock	39													
Cattle	40										7267	8140	7500	22907
	41													
OPERATING EXPEND. TOTAL (add lines 20 through 41)	E	2877	5018	2776	3652	2842	4498	2803	3235	3142	34248	11211	19675	95977
Breeding Stock Purchases	42													
	43													
Mach. and Equip. Purchases	44										1245			1245
Land and Bldg. Imprvm'ts	45			952										952
CAPITAL EXPENSES TOTAL (add lines 42 through 45)	F			952							1245			2197
TOTAL FARM EXPENSES (line E plus F)	G	2877	5018	3728	3652	2842	4498	2803	3235	3143	35493	11211	19615	98174
PRINCIPAL PAID existing obligations	46	1000	2000	1500	3500		8500	3500	4000	340			3000	27340
NON-FARM EXP. AND INVEST.	47									25000				25000
FAMILY LIVING	FL	842	1689	520	258	910	840	423	610	875	1123	833	900	9823
TOTAL DOLLARS USED (add lines G through FL)	H	4719	8707	5748	7410	3752	13838	6726	7845	29357	36616	12044	23575	160337
CASH DIFFERENCE FOR MONTH (line D minus H)	I	-469	369	27	-135	273	-31	372	152	12291	-12526	-7	10125	10441
CASH BALANCE BEGINNING OF MONTH (line N last month)	J	725	256	627	652	517	790	759	1131	1283	13574	1048	1041	
CASH AVAILABLE BEFORE BORROWING (line J±I)	K													
SHORT-TERM LOAN PROCEEDS (if line K is negative)	L		1500								13000	18500		
SHORT-TERM LOAN REPAYMENTS (if line K is positive)	M	1000		1500	3500		8500	3500	4000	340			3000	
CASH BALANCE END OF MO. (line K plus L minus M)	N	256	627	652	517	790	759	1131	1283	13574	1048	1041	11166	
SHORT-TERM CREDIT BALANCE line O last month plus L minus M	O	19840	21340	19840	16340	16340	7840	4340	340	0	13000	18500	15500	
208		JAN.	FEB.	MAR.	APR.	MAY	NE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	T AL

2. *How is enterprise Form 31 totaled and cross-checked?*

Give enrollees a copy of HO-25. At the end of the year, each enrollee with a livestock enterprise should have one or more Form 31s completed for the year's analysis of the enterprise. They should have figures entered for all appropriate months. This should be a fairly simple task if the form has been kept up to date monthly. Show TM-11 and have enrollees follow on the handout as you discuss the following guidelines in totaling and cross-checking Form 31 for the year.

a. Complete line A by totaling Columns 1 through 15.

b. Complete line B by totaling Columns 23 through 29.

c. Balance numbers of livestock in order to be sure that all livestock in the enterprise are accounted for in the record book. January breeding numbers on this form should agree with last year's closing inventory and December numbers should agree with this year's closing inventory. Use the following formula in balancing livestock numbers.

Number on beginning inventory (from last year's Form 35 or last year's analysis) + number purchased (from Form 9, Expenditures) + number born (from Form 31) should be equal to number on closing inventory (from Form 16 or Form 35) + number sold (from Forms 3 and 4, Receipts) + number died (from Form 31) + number consumed (from Form 31).

d. Balance feed fed. Check the amount of feed fed against the amount raised, sold, purchased, and inventoried to make sure that figures are in balance. Use the following formula in balancing feed fed.

Beginning inventory of all feed (from Form 17 or last year's analysis) + purchases of all feed (from Form 7, Expenditures) + feed raised (Forms 32 and 33) should be equal to closing inventory of all feed (from Form 17 or Form 35) + amount sold (from Form 2, Receipts) + amount fed (from Form 31).

3. *How are enterprise Forms 32 and 33 totaled and cross-checked?*

Give enrollees a copy of HO-26. At the end of the year, the field records on Forms 32 and 33 should be complete on all crops harvested during the year. The forms should then be completed and checked to see that all numbers are in balance. Show TM-12 and have enrollees follow on the handout as you discuss the following guidelines in totaling and cross-checking Forms 32 and 33 for the year.

a. Run column totals for lines A, B, C, D, E, F, G, and H on Form 32 and A, B, C, and D on Form 33.

b. Balance owned and rented acres and complete the land inventory on the bottom of Form 33. All owned and rented acres should be accounted for on Forms 32 and 33, even if they are non-productive acres. Use the following formulas in balancing and checking acre numbers.

   Total owned farm acres (line A, Column 2, Form 33) equals total owned grain crop acres on line H, Form 32 + owned forage and other acres on lines 1-18 on Form 33.

   Total rented farm acres (line A, Column 3, Form 33) equals total rented grain crop acres on line H, Form 32 + rented forage and other acres on lines 1-18 on Form 33.

   Total farm acres (line A, Column 4, Form 33) equals total grain crop acres on line 11, Form 31 + forage and other acres on lines 1-18 on Form 33.

   Line A, Column 2 + line A, Column 3 should equal line A, Column 4 on Form 33.

c. Complete the land inventory on the bottom of Form 33. Owned and rented land is classified as tillable, non-tillable or other on the land inventory. All land that is plowable including rotation pasture and hay is considered tillable. All other land is considered non-tillable except for totally non-productive land such as creeks, roads, and farmsteads. Use the following formulas in helping check the completed land inventory.

   Line A, Column 2 - line B should equal line C, Column 13 on Form 33.

   Line A, Column 3 - line B should equal line C, Column 14 on Form 33.

   Line C, Column 13 + line C, Column 14 should equal line C, Column 15.

   Line C, Column 17 + line C, Column 18 = line C, Column 19.

d. Balance production quantities. Check the figures on quantities of each crop produced against inventories, sales, purchases, and amount fed for each crop. Use the following formulas to balance crop quantities on each crop.

Quantity on beginning inventory (from Form 16 or last year's analysis) + quantity raised (from Form 32 or 33) + quantity purchased (from Form 7, Expenditures) should equal quantity sold (from Form 2, Receipts) + quantity fed (from Form 31s) + quantity on closing inventory (from Form 16 or 35).

e. Check enterprise expenses. Remember that the enterprise expenses for each crop are all of the expenses incurred by the operator and landlord for each harvested crop. They may include some items that were purchased in the prior year. Use the formula below to help determine if all crop expenses have been enterprised.

Prepaid crop expenses at the beginning of the year from last year's Form 35 (growing wheat expense and herbicides, seed, fertilizer, etc., for summer crops) + crop expenses during the year = expenses allocated to all crops (Forms 32 and 33) + any prepaid expenses for next year's crops including growing wheat (from Form 35).

F. Group Discussion

Sufficient time should be given for enrollees to ask questions and discuss summarizing the record book for the year. You need to review the procedures each enrollee should go through in totaling and checking each form. Give enrollees a copy of HO-27 to use at home as they work individually to get their books ready for summarization and analysis. Discuss any problems enrollees feel they may encounter in getting this done. Discuss things they may want to do differently next year to make this job easier.

G. Conclusions

Conclusions which may be reached include:

1. An analysis of records is only as accurate as the figures that are used.

2. Summarizing the record book will be a simple job if it has been kept up to date correctly during the year.

3. The further you go in the record book before finding errors, the longer it will take to get them corrected.

4. A checklist should be followed when summarizing the record book to insure that nothing is left out.

5.

6.

Announcements

Next meeting, we will be reviewing procedures for income tax preparation and talking about management changes to maximize after tax income next year.

Social

On-the-Farm Instruction

When visiting the enrollees after this lesson, you will be helping them fill out their input forms for the computer analysis. This may well be the most important visit of the year. The enrollees should have Forms 27, 31, 32, and 33 ready when you get there. The first thing you should do is go over these forms with the enrollees and make sure they are correct. If there are errors, work with the enrollees and get them corrected before doing anything else. When an enrollee summarizes the record book for the first time, you will probably need to check over the book very carefully and you are likely to find some errors. As the enrollees get used to using the record system, they should have little difficulty in getting the record book to this point. After verifying that Forms 27, 31, 32, and 33 in the record book are correct, you will need to work together with the enrollees in completing the input forms for the computer analysis. Complete the input forms in the order in which they come. Use the following guidelines in completing each of the input forms. A copy of the input forms is included for the instructor's reference.

1. Form 27--Input

    a. Enter name and school of operator.

    b. Complete the Operator $ Column directly from Form 27.

    c. Be sure enterprise names are entered on lines 1-4, 9-16, and 39-43.

d. Enter quantities on appropriate lines.

e. Below line 7, break the entry on line 7 down into dividends, refunds, or resales. The value total of lines a-c must equal line 7. These figures are obtained from Form 2, Column 7 in the record book.

f. Include the number and weight of livestock in the quantity column for both non-breeding and breeding livestock.

g. Below line 20, list the kinds of purchased feed on lines B-F (corn, milo, hay, silage, etc.) and the quantity and value of each. The value total of lines A-F must equal line 20. These figures can be obtained from Form 7, Column 20. If a farmer buys grain and mixes it with supplement, it may be easier to include both quantity and value such as mixed feed and enter it on line 20a.

h. Below line 45, break the Land and Building Improvements into Buildings Purchased or Improved, Land Improvements that are to be capitalized, Land Improvements that are to be depreciated, and Land Purchased in acres. The value total of a-d must be equal to the figure on line 45. These figures can be obtained from Form 9, Column 45 in the record book.

i. For non-renters, move to Step j.

j. For renters:

(1) Cash only--

(a) Transfer the same figure as on Operator's line 29 to Landlord's line 8.

(b) Enter estimated or actual landlord's insurance, taxes, etc., on lines 32 and 33.

(2) Crop Share Renter, Crop-Livestock Share Renter, Cash Renter--

(a) Transfer any cash rent paid as in (1)(a) above.

(b) Enter estimated or actual landlord's insurance and taxes as in (1)(b) above.

(c) Enter quantity and value of landlord's share of crop, livestock receipts, etc., in Landlord Column. If the landlord has that share in storage, enter quantity and current value. (Most crop share renters know the above figure even though not recorded.)

(d) Enter quantity and value of landlord's expenses in Landlord Column. Most renters know this figure since it is a proportion of their fertilizer, seed, and chemical bill.

(e) Crop share renters that receive payment for harvesting the landlord's share of crops need to have the amount received entered in Operator's Column, line 6, and Landlord's Column, line 28.

(f) Complete "Total Column" and use for accuracy check on lines D and H. The total column does not need to be completed except for this accuracy check.

k. Complete the information on Purchase Cost of Market Livestock Sold. Enter the purchase cost of the livestock sold this year as listed on lines 9-11. (Some of this livestock may have been purchased in a prior year, and some purchased this year will be sold next year.)

l. Lower right section:

(1) Complete three labor boxes--put in each box the amount of labor contributed by that entity to the farm business in a year--show months in tenths such as 10.2 or 12.0.

(2) Write in the federal gas tax refund box the amount of federal gas tax refund received in last year's federal tax returns if not included in Form 27 above.

(3) Write in the state gas tax refund box the amount of state gas tax refunded to the enrollee during the year if not included in Form 27 above.

2. Forms 31, 32, and 33--Livestock, Grain and Forage Crop Enterprise Data

These forms should be complete and ready to go. Check them over using the checking procedure outlined previously in this lesson. Instead of using the enrollees' copies for including with the input forms, you may want to make copies so the enrollees can keep the original copies in their record books.

3. Form 34--Capital Items

   a. The purpose of this form is to identify items to be added to, or removed from, the depreciation schedule for this year. The depreciation schedule on file in the computer is as of January 1 of this year. This form is also used to identify items such as raised breeding stock sold this year that qualifies for capital gains.

   b. Capital Items Purchased

      (1) Column 1. Use date acquired to determine amount of depreciation claimed for this year.

         (a) Monthly--If the enrollee wants to take a monthly pro-rata share on all items purchases this year, enter the month purchased as 5/80 for May, 1980.

         (b) Six month option--If the enrollee wants to take a half year depreciation on all items purchased this year, enter 7/80 in date acquired on all items.

         (c) Alternative six month option--If the enrollee wants to claim a full year's depreciation on items purchased prior to July 1 and zero on those after July 1; enter 1/80 for those purchased prior to July 1 and 12/31/80 for those purchased after July 1.

      (2) Column 2. Describe enough so the enrollee can identify the item later. As an example, on a tractor, enter model as 4020 or IH. For livestock, enter 25 Angus cows, one York boar. Include number in lot for livestock.

      (3) Column 3. Enter N or U.

      (4) Column 4. Enter cash difference paid. This is the same figure as Form 27, lines 42-45. If dealer credit is used, be sure the total paid, including the note, is entered here and the difference between down payment and that figure shown as money borrowed on Form 27, line 8.

      (5) Column 5. Enter the code number of item traded in (enter "-" if no trade-in). The code number is from the depreciation schedule under Category, Detail, and Item Number--example 02 01 03.

(6) Column 6. Enter Yes or No on claiming additional 20% first year depreciation.

(7) Column 7. Enter amount the enrollee wants to use as salvage value. Show -0- if none.

(8) Column 8. Enter years life.

(9) Column 9. Enter depreciation method. Use SL for Straight Line, DB for Declining Balance, SD for Sum of the Year's Digits, and S2 for items such as land or other items that will not be depreciated or are to be depreciated a set dollar amount per year. In case of S2, enter dollar amount to be used per year in Column 10.

(10) Column 10. Enter the enterprise as hogs, corn, etc., to be charged with this depreciation. If none, leave blank. Add any comments to assist in identifying how to set it up.

NOTE: The total of all lines in Column 4 must agree with Form 27, line F.

c. Capital Items Sold

(1) Column 1. Enter date sold.

(2) Column 2. Enter an adequate description. (Preferably, enter the same description as is on the depreciation schedule.)

(3) Column 3. Enter code number from depreciation schedule including category, detail, and item number--example, 01 02 01. In case of raised breeding stock sold, enter raised.

(4) Column 4. Enter yes or no for whether or not to claim depreciation this year.

(5) Column 5. Enter amount received. Note: Items traded in do not need to be entered here--they will be picked up from the form above.

(6) Column 6. This is to be used for partial sales of an item. As an example, if 25 Angus cows were on the depreciation schedule and had a remaining cost of $8,000 and if five of these were sold this year--then, the value of the part sold is 5/25 of $8,000, or $1,600.

(7) Column 7. Enter any comments that will help identify the transaction.

NOTE: The total of all lines in Column 5 must agree with Form 27, line B.

4. Form 35--Inventory of Livestock, Inventory of Feed, Crops, and Supplies, and Asset:Liability Statement.

The inventories and asset:liability statement only needs to be completed at the end of the year by enrollees that have had a computer analysis run on their records. For a first-time analysis, two Form 35s must be completed and sent with the input forms, one for the beginning of the year and one for the end of the year. It is anticipated that after the first complete year of the program, enrollees will not need to keep Forms 16, 17, and 28 in the record book.

a. Complete the Inventory of Livestock.

(1) Be sure to include number of head, total weight in pounds, and total value for all classes of livestock.

(2) Values for Purchased Breeding Stock on lines 1, 12, and 25 are the figures from last year's depreciation schedule plus the purchase cost of breeding livestock purchased during the year.

b. Complete the Inventory of Feed, Crops, and Supplies

(1) Be sure to list quantities as specified on the form (tons for hay, bushels for soybeans, etc.).

c. Complete the Asset:Liability Statement.

(1) The modified cost value and the Fair Market Value are needed. Modified cost is the book or depreciated value of an item, whereas, the fair market value would be defined as the true value of the item on today's market. If the fair market value is the same as the modified cost value, the figure under modified cost will be transferred automatically to fair market value.

(2) Complete all unshaded areas that are applicable. Completing the shaded lines is optional. The figures on the shaded lines are drawn from elsewhere on the input forms.

Materials Needed

Instructor

TM-10, Example Cash Flow Summary (combined with HO-24)
TM-11, Example Form 31--Livestock Enterprise Data (combined with HO-25)
TM-12, Example Form 32--Grain Crops Enterprise Record and Form 33--Forage Crops Enterprise Record (combined with HO-26)

Student

HO-23, Quiz--Summarizing the Year's Records
HO-24, Example Cash Flow Summary (combined with TM-10)
HO-25, Example Form 31--Livestock Enterprise Data (combined with TM-11)
HO-26, Example Form 32--Grain Crops Enterprise Record and Form 33--Forage Crops Enterprise Record (combined with TM-12)
HO-27, Checklist for Summarizing Records
Missouri Farm Business Analysis Record Book

FORM 27 **CASH FLOW** **FINANCIAL PLAN OR SUMMARY**

	LINE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.	TOTAL
RECEIPTS														
Crop Sales Wheat	1						1715							
Fescue Seed	2						3124							
	3													
	4													
Gov't Payments	5													
Custom Work	6							2411						
Dividends, Refunds, Resales	7													
Cash Rent, Other Farm	8													
Non-Brdg Livestock Sales	9													
Cattle	10									36828	3105			
Hogs	11	4163	7493	3794	7188	3938	6970	4600	7910	4490	7898	4400	7800	
Livestock Products	12													
	13													
OPERATING SALES TOTAL (add lines 1 through 13)	A	4163	7493	3794	7188	3938	11809	7011	7910	41318	11003	4400	7800	
Breeding Livestock Sales	14													
Hogs	15			1894			1911			243		2050		
	16													
Mach., Equip., Bldgs. Sold	17													
CAPITAL SALES TOTAL (add lines 14 through 17)	B			1894			1911			243		2050		
TOTAL FARM RECEIPTS (line A plus B)	C	4163	7493	5688	7188	3938	13720	7011	7910	41561	11003	6450	7800	
MONEY BORROWED summary only	18		1500								13000	5500		
NON-FARM RECEIPTS	19	87	83	87	87	87	87	87	87	87	87	87	25900	
TOTAL DOLLARS AVAILABLE	D	4250	9076	5775	7275	4025	13807	7098	7997	41648	24090	12037	33700	
EXPENDITURES														
Feed	20	2412	2615	2211	2275	2304	2310	2105	2475	2280	26275	2411	3200	
Vet., Med	21		122	75	30	40	71	110		30			75	
Breeding Fees, Registr.	22													
Fertilizer, Lime	23		210				910				280		2100	
Crop Chemicals	24						130							
Seeds, Crop Supplies	25		113				78							
Machinery Repair, Maint.	26	122		50	85		412		65	50			110	
Building, Fence Repair	27		150		322		74		71	65	141	128		
Machinery, Truck Hire	28													

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Cash Rent	29													
Power Fuel, Oil, Grease	30	140	175	160	275	240	200	428	170	270	135	140	150	
Hired Labor	31													
Insurance	32				420					220				
Taxes	33													
Utilities	34	161	148	175	135	138	163	160	152	140	150	140	160	
Truck Expenses	35	42	53		110	40	56		112			102	50	
Auto Expenses	36													
Misc. Farm Expenses	37		232	105		80	94		190	87		150	100	
Interest (existing obligations)	38		1200										5500	
Non-Breeding Livestock	39													
Cattle	40										7267	8140	7504	
	41													
OPERATING EXPEND. TOTAL (add lines 20 through 41)	E	2877	5018	2776	3652	2842	4498	2803	3235	3142	34348	11211	19675	
Breeding Stock Purchases	42													
	43													
Mach. and Equip. Purchases	44										1245			
Land and Bldg. Imprvm'ts	45			952										
CAPITAL EXPENSES TOTAL (add lines 42 through 45)	F			952							1245			
TOTAL FARM EXPENSES (line E plus F)	G	2877	5018	3728	3652	2842	4498	2803	3235	3143	35493	11211	19675	
PRINCIPAL PAID existing obligations	46	1000	2000	1500	3500		8500	3500	4000	340			3000	
NON-FARM EXP. AND INVEST.	47									25000				
FAMILY LIVING	FL	842	1689	520	258	910	840	423	610	875	1123	833	900	
TOTAL DOLLARS USED (add lines G through FL)	H	4719	8707	5748	7410	3752	13838	6726	7845	29357	36616	12044	23575	
CASH DIFFERENCE FOR MONTH (line D minus H)	I	-469	369	27	-135	273	-31	372	152	12291	-12526	-7	10125	
CASH BALANCE BEGINNING OF MONTH (line N last month)	J	725	256	627	652	517	790	759	1131	1283	13574	1048	1041	
CASH AVAILABLE BEFORE BORROWING (line J±I)	K													
SHORT-TERM LOAN PROCEEDS (if line K is negative)	L		1500								13000	18500		
SHORT-TERM LOAN REPAYMENTS (if line K is positive)	M	1000		1500	3500		8500	3500	4000	340			3000	
CASH BALANCE END OF MO. (line K plus L minus M)	N	256	627	652	517	790	759	1131	1283	13574	1048	1041	11166	
SHORT-TERM CREDIT BALANCE line O last month plus L minus M	O	19840	21340	19840	16340	16340	7840	4340	340	0	13000	18500	15500	
20840		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL

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TM-10 (cont'd)
HO-24 (cont'd)
FBMA II

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BEEF LIVESTOCK ENTERPRISE DATA FORM 31

Name MPLE chool

LINE	MONTH	FEED RECORD													VET & MED	LIVE-STOCK SUP/SER
		PROTEINS		GRAINS						ROUGHAGE						
				CORN						HAY		SILAGE		PASTURE		
		AMT	$	BU	$	AMT	$	AMT	$	TONS	$	TONS	$	DAYS	$	$
1	JAN	3780#	775							6.5	390					
2	FEB	300#	27	48	142					8.5	510					
3	MARCH									4.9	294			414	95	
4	APRIL													845		
5	MAY	300#	27	48	151									891		23
6	JUNE													879	35	
7	JULY													926		
8	AUG	6600#	1319	48	163									944	105	
9	SEPT													925		
10	OCT													592		
11	NOV									3.2	192			296		
12	DEC									6.5	390					
A	TOTAL	10,980	$2148	144	$456					29.6	$1776			6712	$235	$23
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

LINE	MONTH	DEATH LOSS		BREEDING RECORD					MONTH	DEATH LOSS		BREEDING RECORD				
		NO.	WT.	NO. F IN HERD	NO. F BRED	NO. OF BIRTHS	NO. BORN	NO. WEANED		NO.	WT.	NO. F IN HERD	NO. F BRED	NO. OF BIRTHS	NO. BORN	NO. WEANED
13	JAN			21					JULY			21		4	4	
14	FEB			21				19	AUG			21				
15	MARCH			21					SEPT			20	20			
16	APRIL			21					OCT			20				
17	MAY			21					NOV			20				
18	JUNE			21		16	16		DEC			20				
B									TOTAL				20	20	20	19
		16	17	18	19	20	21	22		23	24	25	26	27	28	29

Line A--Col. 13: Pasture days = (pounds per animal ÷ 1000) x number of head x number of days grazed during month

Line B--Col. 23: No. died after weaning.

Col. 24: Weight of Col. 23.

Col. 25: No. females in herd.

Col. 26: No. females bred.

Col. 27: No. litters born or cows calved, etc.

No. head ______ Lbs. ______ Value ______ Consumed

Dairy:		Poultry:		
% test	______	Eggs Prod.	______	doz.
Cows dry	______	Eggs Purch.	______	doz.
Cows milked	______	Eggs Cons.	______	doz.
Gal. fed	______	Eggs Sold	______	doz.

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TM-11
HO-25
FBMA II

GRAIN CROPS ENTERPRISE RECORD

FORM 32

Name SAMPLE School

LINE	CROP	FIELD NO.	ACRES			BU/LBS RAISED SEED USED	PRODUCTION			ENTERPRISE EXPENSE			
			OWNED	RENTED	TOTAL		TOTAL (QUANTITY)	OPERATOR SHARE (QUANTITY)	LANDLORD SHARE (QUANTITY)	FERT LIME	PESTI-CIDES	SEED & SUPPLIES	DRYING & STORAGE
1	CORN FOR GRAIN	6	20		20		1800 bu	1800 bu		920	340	300	288
2													
3													
4													
A	TOTAL CORN FOR GRAIN		20		20		1800 bu	1800 bu		920	340	300	288
B	TOTAL OATS FOR GRAIN												
C	TOTAL BARLEY FOR GRAIN												
5	SOYBEAN FOR GRAIN Double Crop	7	35		35		1050 bu	1050 bu		455	525	315	63
6													
7													
8													
D	TOTAL SOYBEAN FOR GRAIN		35		35		1050 bu	1050 bu		455	525	315	63
9	WHEAT FOR GRAIN	3	18		18		720 bu	720 bu		576		144	
10		7	35		35		1610 bu	1610 bu		1120		280	
11													
12													
E	TOTAL WHEAT FOR GRAIN		53		53		2330 bu	2330 bu		1696		424	
13	MILO FOR GRAIN	4	30		30		2400 bu	2400 bu		1080	390	150	144
14		1	15		15		1080 bu	1080 bu		540	195	75	65
15	double cropped	3	18		18		1098 bu	1098 bu		504	234	90	66
16	rented from John C.			65	65		5460 bu	2730 bu	2730 bu	2340	845	325	164
F	TOTAL MILO FOR GRAIN		63	65	128		10,038 bu	7308 bu	2730 bu	4464	1664	640	439
17	OTHER GRAIN CROPS*												
18													
G	TOTAL OTHER GRAIN CROPS												
19	SET ASIDE ACRES												
H	TOTAL GRAIN CROPS		171	65	236					$7535	$2529	$1679	$790
	*Include cotton.	1	2	3	4	5	6	7	8	9	10	11	12

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TM-12
HO-26
FBMA II

Name SAMPLE

FORAGE CROPS E RPRISE RECORD

School

FORM 33

LINE	CROP	FIELD NO.	ACRES OWNED	ACRES RENTED	ACRES TOTAL	BU./LBS. USED FOR SEED	PRODUCTION TOTAL (QUANTITY)	PRODUCTION OPERATOR SHARE (QUANTITY)	PRODUCTION LANDLORD SHARE (QUANTITY)	ENTERPRISE EXPENSE FERT LIME	ENTERPRISE EXPENSE PESTICIDES	ENTERPRISE EXPENSE SEED AND SUPPLIES	ENTERPRISE EXPENSE OTHER
1	CORN ~~& SORGHUM~~ green chop SILAGE	2	16		16		224 T.	224 T.		736	272	240	
2													
3	HAYLAGE												
4	ALFALFA												
5													
6													
7	RED CLOVER (HAY ~~& SEED~~) TIMOTHY HAY	5	50		50		140 T.	140 T.		600		375	
8													
9	FESCUE (HAY, PAST, SEED)	8	49		49		17,150#	17,150#		1813			
10		9	41		41		68 T.	68 T.		1517			
11	OTHER LEG & GRASS HAY												
12	LEG & GRASS PASTURE												
13	OTHER FORAGES:												
14	IDLE TILLABLE LAND												
15	NON-TILLABLE PASTURE												
16	WOODLAND		22		22								
17	FARMSTEAD, ROADS, ETC.		4		4								
A	TOTAL, THIS PAGE		182		182					$4666	$272	$615	
B	TOTAL FARM		353	65	418					12,201	$2801	$2294	$790
C	NO. ACRES D.C.	1	2	3	4	5	6	7	8	9	10	11	12

	LAND INVENTORY	ACRES OWNED	ACRES RENTED	ACRES TOTAL	VALUE PER ACRE	TOTAL VALUE OWNED	TOTAL VALUE RENTED	TOTAL VALUE TOTAL
19	TILLABLE CROPLAND[1]	274		274	600	164,400		164,400
20			65	65	—		39,000	39,000
21	NON-TILLABLE[2]	22		22	350	7700		7700
22								
23	OTHER LAND (ROADS, CREEKS)	4		4	350	1400		1400
24								
D	TOTAL	300	65	365		173,500	39,000	212,500
E	NO. OF ACRES IRRIGATED							
		13	14	15	16	17	18	19

[1] Include all land that is plowable including rotation pasture and hay.

[2] Include non-tillable pasture, timber, etc.

[3] Use fair market value without buildings and improvement.

Line B--Totals from Forms 32 and 33.

Line C--D.C. indicates double-cropping.

QUIZ--SUMMARIZING THE YEAR'S RECORDS

____ 1. Total dollars available and total dollars used during the year should be the same except for the difference in bank balance between the beginning and ending of the year. (True or False)

____ 2. All income and all expenses, both farm and non-farm, should be shown somewhere on the Form 27--Summary. (True or False)

____ 3. In order to balance livestock numbers for the year, you would include: (Select the correct answers.)

a. beginning and ending inventories
b. purchases and sales during the year
c. number breeding and non-breeding
d. number consumed
e. number born and died

____ 4. If Farmer Jones started the year with 1500 bushels of corn on inventory, raised 3200 bushels during the year, sold 1200 bushels during the year, and ended the year with 560 bushels on inventory, how much corn was fed to livestock? (Place answer to left.)

____ 5. Farmer Jones received \$1100 patronage dividend allocation; but only \$300 in a check. The \$800 balance was kept by his co-op for retained earnings. (Select the correct answers.)

a. \$1100 is recorded on line 7a (Dividend Receipts)
b. \$300 is recorded on line 7a
c. \$800 is recorded on line 7a
d. \$1100 is recorded on line 47 (Non-Farm Investment)
e. \$300 is recorded on line 47
f. \$800 is recorded on line 47

Key for Quiz

1. True

2. True

3. a, b, d, and e

4. $2940

5. a and f

CHECKLIST FOR SUMMARIZING RECORDS

1. Complete Form 27--run totals and make cross-checks for accuracy.

   _____ Line D totals, January through December = yearly total of lines A + B + 18 + 19

   _____ Line H totals, January through December = yearly total of lines E + F + 46 + 47 + FL

   _____ Cash balance at the beginning of the year (line J, January) + or - cash difference for the year (line I, total column) should equal cash balance at the end of the year (line N, December)

2. Complete Form 31--run totals and make cross-checks to see that information is complete and accurate for the year.

   _____ Livestock numbers are in balance: Number on beginning inventory (from last year's Form 35 or last year's analysis) + number purchased (from Form 9, Expenditures) + number born (from Form 31) should be equal to number on closing inventory (from Form 16 or Form 35) + number sold (from Forms 3 and 4, Receipts) + number died (from Form 31) + number consumed (from Form 31)

   _____ Feed fed is in balance: Beginning inventory of all feed (from Form 17 or last year's analysis) + purchases of all feed (from Form 7, Expenditures) + feed raised (Forms 32 and 33) should be equal to closing inventory of all feed (from Form 17 or Form 35) + amount sold (from Form 2, Receipts) + amount fed (from Form 31)

3. Complete Forms 32 and 33--run totals and make cross-checks to see that information is complete and accurate for the year.

   _____ Owned farm acres are in balance: Total owned farm acres (line A, Column 2, Form 33) equals total owned grain crop acres on line H, Form 32 + owned forage and other acres on lines 1-18 on Form 33

   _____ Rented farm acres are in balance: Total rented farm acres (line A, Column 3, Form 33) equals total rented grain crop acres on line H, Form 32 + rented forage and other acres on lines 1-18 on Form 33

   _____ Land inventory is in balance: Line A, Column 2 - line B should equal line C, Column 13 on Form 33

   Line A, Column 3 - line B should equal line C, Column 14 on Form 33

Line A, Column 4 - line B should equal line C, Column 15 on Form 33.

_____ Quantities of crops produced are in balance: Quantity on beginning inventory (from Form 16 or last year's analysis) + quantity raised (from Form 32 or 33) + quantity purchased (from Form 7, Expenditures) should equal quantity sold (from Form 2, Receipts) + quantity fed (from Form 31s) + quantity on closing inventory (from Form 16 or 35).

_____ Crop expenses are all accounted for and in balance: Prepaid crop expenses at the beginning of the year from last year's Form 35 (growing wheat expense and herbicides, seed, fertilizer, etc., for summer crops) + crop expenses during the year = expenses allocated to all crops (Forms 32 and 33) + any prepaid expenses for next year's crops including growing wheat (from Form 35).

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing a Farm Business

Lesson 4: Reviewing Income Tax

A. Review

Ask the group to identify the most difficult part of closing out records and cross-checking. Then, ask why these were difficult. In most cases, it will be due to incomplete or inaccurate records. Follow this by listing trouble points to avoid during the year so the end of the year summary will be easier and more accurate and complete. Summarize by listing some conclusions from the last lesson as follows:

1. An analysis of records is only as accurate as the figures used and is simple if entries are current.
2. A checklist should be used when summarizing records.
3.
4.

B. Objective

To be able to check the computer prepared 1040F for accuracy and to organize other data needed to complete income tax returns.

C. Motivation

Ask the group how much extra income tax a farmer in the 35 percent marginal tax bracket would pay if an expense of $100 were omitted ($35). What if $1,000 was overlooked ($350)? Next, what if $5,000 of receipts were omitted? (Pay penalty, interest, etc., if audited.) So, accuracy on tax returns is critical. How we check for accuracy and get other information together for a tax preparer or for our use is our goal during this class.

D. Key Points

Key points which will be accomplished are as follows:

1. *How is the 1040F received from the computer program checked and verified?*
2. *What other information will I need for tax preparers?*

3. *What items are on a tax checklist?*

4. *What management changes can I make next year to maximize after-tax income?*

E. Introduction of Information

Start the introduction of information by pointing out that if records turned in on the end of year summary were complete and correct, the only errors possible on the 1040F would be those resulting from entering the data into the computer. We need to check for both types of errors.

1. *How is the 1040F received from the computer program checked and verified?*

   a. Distribute copies of HO-28, HO-29, and HO-30 and let the enrollees compare the cash flow (Form 27 Summary) with the entries on the 1040F. These figures should be identical; however, you may need to point out the following:

      (1) Livestock supplies on the 1040F are line 22 on the cash flow (see 1).

      (2) Fertilizer and chemicals on the cash flow, lines 23 and 24, are combined on the 1040F on line 39 (see 2).

      (3) Machinery and building repairs on the cash flow, lines 26 and 27, are combined on the 1040F on line 34 (see 3).

      (4) Note that storage costs were entered on a line not used otherwise on the cash flow (see line 20).

      (5) In this example, only the farm share of utilities were entered in the farm expense section. The other share went to the family living section each month. If an enrollee records the total on line 34, then the farm share is noted.

      (6) In this example, the farm share of auto expenses were entered on line 36. The farm share of the auto would also be depreciated. Enrollees that use a mileage charge for their auto would enter that charge on line 36 in the total column only and not claim depreciation or operating expenses.

      (7) The cost of non-breeding livestock purchased during the year was entered on line 40 of the cash flow. This may not be the same as the figure on the 1040F because the cost of purchased livestock is deducted only in the year sold (see 5).

(8) Capital purchases, principal paid, family living, etc., do not appear on the 1040F.

(9) The example 1040F shows both the cash and accural method. Enrollees will have only the method they use in reporting taxes completed on their return.

(10) Entries on the cash flow below line A are not reported on the 1040F but may be entered on other tax forms which will be discussed later.

(11) HO-30 is a depreciation schedule for a different example than the one used previously, but is used here because it illustrates more examples. The figure marked 6 on the depreciation schedule should be the same as line 56 on 1040F at 6. This total depreciation schedule figure is divided on the depreciation schedule into machines (7), buildings (8), and livestock (9), and reported on page 2 of the 1040F.

(12) An important point on depreciation: The computer is programmed to switch from the declining balance method of depreciation to straight line at two-thirds life of the item which maximizes tax savings. Many tax preparers do not go to this extra effort and may differ on depreciation claimed. See 10 on HO-30.

If entries to this point check, the computer prepared 1040F can be used to file income taxes.

2. *What other information will I need for tax preparers?*

a. Distribute copies of HO-31, Financial Summary, which has information on it needed for other forms needed in completing income tax forms. Refer to the following for points to clarify in completing other forms:

(1) Ask the group where the information for Schedule 3468 (HO-32) is found on the depreciation schedule. Point out that this information is in the lower right section of the depreciation schedule, identified on HO-30 by the numerals 11-18.

(2) Distribute HO-33 for Recapture of Investment Credit. Refer to HO-30 (depreciation schedule) and note the use of numbers to indicate the source of information for the form (see 19-24).

(3) Distribute HO-34 and HO-34 cont'd for Gains and Losses. Refer to HO-30 (depreciation schedule) and note the use of numbers to indicate the source

of information for the farm (see 25-32). Special note: The sale of purchased breeding stock that was on the depreciation schedule will have a summary prepared on the depreciation schedule similar to the machinery and buildings on the example. For this reason, it will be to the enrollees' advantage if they put all purchased breeding stock on the depreciation schedule. If they do not plan to depreciate it, they can show a salvage value equal to basis.

(4) Refer to HO-31 for the sale of raised breeding stock. Livestock held for breeding (see 33) is the sale of both raised and purchased breeding livestock. Subtract the figure on the depreciation schedule for purchased breeding livestock and the remaining figure (raised breeding) goes on HO-34, Schedule 4797 (see 33).

(5) Distribute HO-35 and point out that the figure on HO-29, line 58 (see 34) goes on HO-35 (see 34).

b. Distribute HO-36, HO-37, and HO-38. Point out that most of the information for these come from the other forms. These will be a need for some other information such as:

(1) Off-farm income. Usually W-2s from employers provide this information. Income from town rental property as an example will need to come from a different source.

(2) Non-farm and itemized deductions--from other records.

3. *What items are on a tax checklist?*

Show TM-7 to identify some items which are frequently overlooked. This list is not meant to be complete but highlights a few items that apply to farmers. Some of the groups can probably add. Also, if enrollees have not been given a copy of the Farmer's Tax Guide, Publication 225 (free), this would be an opportunity to distribute them.

4. *What management changes can I make next year to maximize after tax income?*

a. Show TM-6 and discuss it. See if any of the enrollees can identify a management change they need to make to maximize after tax income. Most of the points have been used in previous lessons.

b. Show TM-8 and TM-9 and discuss. These are some ideas on techniques to use in shifting income from one year to another.

F. Group Discussion

Discussion should center on points the individual enrollees can use in the coming year as tax planning strategies. These could be listed on the board as suggested by the group.

G. Conclusions

Conclusions which may be reached include:

1. The 1040F should be checked for accuracy with Form 27--Cash Flow Summary.
2. Some expense items are grouped when transferred to the 1040F.
3. Information for tax forms in addition to the 1040F is also on the computer printout.
4. A checklist of items to consider should be used prior to completing the tax forms.
5. Highlights of points identified this year in tax management should be referred to next year as management decisions are made.
6.
7.

Announcements

Social

On-the-Farm Instruction

When visiting enrollees following this lesson, the discussion can center on checking the 1040F and reviewing tax activities to insure complete and accurate returns.

Materials Needed

Instructor

Use the following transparencies from Lesson 2 of Unit II:

TM-6, Methods of Tax Management

- TM-7, Tax Check List
- TM-8, Methods to Increase Income
- TM-9, Methods to Delay Income

Student

- HO-28, Example Cash Flow--Form 27 (Summary)
- HO-29, Example 1040F for a Sample Farm (computer printout)
- HO-30, Example Depreciation Schedule (computer printout)
- HO-31, Example Financial Summary for a Sample Farm (computer printout of a cash flow)
- HO-32, Form 3468--Computation of Investment Credit
- HO-33, Form 4255--Recapture of Investment Credit
- HO-34, Form 2797--Supplemental Schedule of Gains and Losses
- HO-35, Schedule SE--Computation of Social Security Self-Employment Tax
- HO-36, Form 1040 (blank)
- HO-37, Schedule D--Capital Gains and Losses (blank)
- HO-38, Schedule E--Supplemental Income Schedule (blank)
- Missouri Farm Business Analysis Record Book

FORM 27 **CASH FLOW** **FINANCIAL PLAN OR SUMMARY**

	LINE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.	TOTAL
RECEIPTS														
Crop Sales CORN	1													78394
BEANS	2													50196
WHEAT	3													20102
	4													
Gov't Payments	5													
Custom Work	6													1091
Dividends,Refunds,Resales	7													212
Cash Rent, Other Farm	8													
Non-Brdg Livestock Sales	9													
HOGS	10													8661
CATTLE	11													19650
Livestock Products	12													
	13													
OPERATING SALES TOTAL (add lines 1 through 13)	A													178306
Breeding Livestock Sales	14													
BEEF	15													2000
HOGS	16													1330
Mach.,Equip.,Bldgs. Sold	17													1325
CAPITAL SALES TOTAL (add lines 14 through 17)	B													4655
TOTAL FARM RECEIPTS (line A plus B)	C													182961
MONEY BORROWED summary only	18													88652
NON-FARM RECEIPTS	19													599
TOTAL DOLLARS AVAILABLE	D													272212
EXPENDITURES														
Feed	20													9996
Vet.,Med	21													396
Breeding Fees, Registr.	22												① —	366
Fertilizer, Lime	23												② <	14696
Crop Chemicals	24													8930
Seeds, Crop Supplies	25													7998
Machinery Repair, Maint.	26												③ <	5042
Building, Fence Repair	27													694
Machinery, Truck Hire	28													488

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		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
~~Cash Rent~~ Storage	29													10713
Power Fuel, Oil, Grease	30													7034
Hired Labor	31													5214
Insurance	32													3303
Taxes	33													2980
Utilities	34													1043
~~Truck Expenses~~ Consu.	35													2490
uto Expenses	36													458
Misc. Farm Expenses	37													1454
Interest (existing obligations)	38													9979
Non-Breeding Livestock	39													
HOGS	40													1669
	41													
OPERATING EXPEND. TOTAL (add lines 20 through 41)	E													94988
Breeding Stock Purchases	42													
	43													
Mach. and Equip. Purchases	44													47850
Land and Bldg. Imprvm'ts	45													
CAPITAL EXPENSES TOTAL (add lines 42 through 45)	F													47850
OTAL FARM EXPENSES (line E plus F)	G													142838
PRINCIPAL PAID existing obligations	46													80749
NON-FARM EXP. AND INVEST.	47													2000
FAMILY LIVING	FL													45873
TOTAL DOLLARS USED (add lines G through FL)	H													271460
CASH DIFFERENCE FOR MONTH (line D minus H)	I													752
CASH BALANCE BEGINNING OF MONTH (line N last month)	J													1342
CASH AVAILABLE BEFORE BORROWING (line J±I)	K													
SHORT-TERM LOAN PROCEEDS (if line K is negative)	L													
ORT-TERM LOAN REPAYMENTS if line K is positive)	M													
CASH BALANCE END OF MO. (line K plus L minus M)	N													2094
SHORT-TERM CREDIT BALANCE line O last month plus L minus M	O													

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SCHEDULE F (Form 1040)
Department of the Treasury
Internal Revenue Service

Farm Income and Expenses

▶ Attach to Form 1040, Form 1041, or Form 1065.
▶ See Instructions for Schedule F (Form 1040).

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Name of proprietor (s) SAMPLE FARM - 1980

Social security number

Farm name and address ▶

Employer identification number

Part I Farm Income—Cash Method

Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report these sales on Form 4797.

Sales of Livestock and Other Items You Bought for Resale

a. Description	b. Amount	c. Cost or other basis
1 Livestock: ▶	8661	⑤ 507
	19650	1333
2 Other items: ▶		
3 Totals	28311	1840
4 Profit or (loss), subtract line 3, column c, from line 3, column b ▶		26471

Sales of Livestock and Produce You Raised and Other Farm Income

Kind	Amount
5 Cattle	
6 Calves	
7 Sheep	
8 Swine	
9 Poultry	
10 Dairy products	
11 Eggs	
12 Wool	
13 Cotton	
14 Tobacco	
15 Vegetables	
16 Soybeans	50196
17 Corn	78394
18 Other grains	20102
19 Hay	
20 Straw	
21 Fruits and nuts	
22 Machine work	1091
23 a Patronage dividends	
b Less: Nonincome items	
c Net patronage dividends	
24 Per-unit retains	
25 Nonpatronage distributions from exempt cooperatives	
26 Agricultural program payments: a Cash	
b Materials and services	
27 Commodity credit loans under election (or forfeited)	
28 Federal gasoline tax credit	74
29 State gasoline tax refund	138
30 Other (specify): ▶ Lld. Reimb.	
Other	
MISC LVS	
31 Add amounts in column for lines 5 through 30	149995
32 Gross profits* (add lines 4 and 31) ▶	176466

Part II Farm Deductions—Cash and Accrual Method

F

Do not include personal or living expenses (such as taxes, insurance, repairs, etc., on your home), which do not produce farm income. Reduce the amount of your farm deductions by any reimbursement before entering the deduction below.

Items	Amount
33 a Labor hired	5261
b Jobs credit	
c WIN credit	
d Total credits	
e Balance (subtract line 33d from line 33a)	5261
34 Repairs, maintenance	5736
35 Interest	9977
36 Rent of farm pasture	
37 Feed purchased	9996
38 Seeds, plants purchased	7998
39 Fertilizers, lime, chemicals	23626
40 Machine hire	488
41 Supplies purchased	
42 Breeding fees	
43 Veterinary fees, medicine	396
44 Gasoline, fuel, oil	7054
45 Storage, warehousing	10713
46 Taxes	2980
47 Insurance	5303
48 Utilities	1043
49 Freight, trucking	
50 Conservation expenses	2000
51 Land clearing expenses	490
52 Pension and profit-sharing plans	
53 Employee benefit programs other than line 52	
54 Other (specify) ▶	
Livestock Supplies & Services	① 366
Auto expense (farm)	458
Miscellaneous (including bank charges, farm papers, organization dues, etc.)	1454
55 Add lines 33e through 54	93319
56 Depreciation (from Part III, line 62)	⑥ 30270
57 Total deductions (add lines 55 and 56) ▶	123589

58 Net farm profit or (loss) (subtract line 57 from line 32). If a profit, enter on Form 1040, line 19, and on Schedule SE, Part 1, line 1a. If a loss, go on to line 59. (Fiduciaries and partnerships, see the Instructions.) 58 (3+4) 52877

59 If you have a loss, do you have amounts for which you are not "at risk" in this farm (see Instructions)? ☐ Yes ☐ No

*Use amount on line 32 for optional method of computing net earnings from self-employment. (See Schedule SE, Part 1, line 3.)

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FBMA II

Part III **Depreciation (Do not include your home, its furnishings, and other personal items.)** If you need more space, use Form 4562.

Description of property (a)	Date acquired (b)	Cost or other basis (c)	Depreciation allowed or allowable in prior years (d)	Method of computing depreciation (e)	Life or rate (f)	Depreciation for this year (g)
60 Total additional first-year depreciation (do not include in items below) (see instru[illegible]ation) →						
61 Other depreciation:						
Buildings					⑧	2242
Machinery and other Equipment					⑦	27834
Other						
Livestock					⑨	194
62 Totals (1)			Enter here and in Part II, line 56 ▶			30270

Part IV **Farm Income—Accrual Method (Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report these sales on Form 4797 and omit them from ''inventory at beginning of year'' column.)**

a. Kind	b. Inventory at beginning of year	c. Cost of items purchased during year	d. Sales during year	e. Inventory at end of year
Grain	144761	9996	148692	143390
Hogs	8050	1533	19650	9260
Cattle	9052	136	8661	10490
Sheep				
Other				
Total	161863	11665	177003	163140
To Form 4797				
77 Totals (enter here and in Part V below)	(Enter on line 86)	(Enter on line 87)	(Enter on line 79)	(Enter on line 78)

Part V **Summary of Income and Deductions—Accrual Method**

78 Inventory of livestock, crops, and products at end of year (line 77, column e)		
79 Sales of livestock, crops, and products during year (line 77, column d)		
80 Agricultural program payments: a Cash		
b Materials and services		
81 Commodity credit loans under election (or forfeited)		
82 Federal gasoline tax credit		74
83 State gasoline tax refund		138
84 Other farm income (specify) ▶ Patronage Refund Lld. Reimb Custom Work 1091 Other		1091
85 Add lines 78 through 84		
86 Inventory of livestock, crops, and products at beginning of year (line 77, column b)		
87 Cost of livestock and products purchased during year (line 77, column c)		
88 Total (add lines 86 and 87)		
89 **Gross profits*** (subtract line 88 from line 85)		
90 **Total deductions** from Part II, line 57 ▶		123589
91 **Net farm profit or (loss)** (subtract line 90 from line 89). If a profit, individuals enter on Form 1040, line 19, and on Schedule SE, Part I, line 1a. If a loss, go on to line 92. (Fiduciaries and partnerships see the Instructions.)	91	

92 If you have a loss, do you have amounts for which you are not ''at risk'' in this farm (see Instructions)? ☐ Yes ☐ No

*Use amount on line 89 for optional method of computing net earnings from self-employment. (See Schedule SE, Part 1, line 3.)

(1) Detail kept with enrollment in a management analysis program, available on request.

FARM Management Analysis Program

1980 **DEPRECIAT**
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CATEGORY	DETAIL	ENTERPRISE	ITEM NUMBER	NEW-1 USED-2	DESCRIPTION		DATE BOUGHT MO.	YR.	INITIAL YR. FULL-1 NONE-0	TOTAL BASIS CASH PLUS REMAINING COST OF ITEMS TRADED	REMAINING COST OF ITEMS TRADED	CASH DIFFERENCE
3	4	5	6	9			10		11	12	13	14
03	90			1	OTHER	LOG SPLIT	05	80		74		
09	31	39		2	COW, BEEF	25ANGS	01	77		6000		
09	34	39		2	BULL, BEEF	1HEREF	01	77		470		
09	51	39	76	1	SOW	BOB	01	76		104		
09	53	39	77	1	GILT	2YORK	01	77		154		
	BOUGHT				*							
09	54			1	BOAR	50% RED	01	80		68		
	BOUGHT				*							
09	54			1	BOAR	50%PER&DRS	03	80		338		
09	54	39	77	1	BOAR	1DUROC	01	77		75		
09	54	39	78	2	BOAR	1YORK	01	78		150		
09	54	28	79	1	BOAR	BOAR	09	79		350		
	NEW INSERT											
10	01		[illegible]	1	* BASIS LAND	SMITH 30AC	05	80		8600		
10	01		58	2	* BASIS LAND	IONIA	01	58		4760		
10	01		67	2	* BASIS LAND	GAMBLE	01	67		11700		
10	01		69	2	* BASIS LAND	BURGER	01	69		6011		
10	01		75	2	* BASIS LAND	50COOK	10	75		7592		
10	02		78	1	* BASIS HOME	NEW	06	78		65000		
SUMMARY OF MACHINERY & BUILDING SALES AND INVESTMENT CREDIT TENTATIVE R												
										MO-SOLD	AMT-RECD	
02	01	39	75	2	BARN	COOK	10	75		01 22	1855	
02	05		75	2	HOUSE	COOK	10	75		01	3675	
02	16	39	75	2	FEEDING FLOOR	COOK	10	75		01	66	
02	19	39	75	2	FENCING	COOK	10	75		01	248	
02	39		75	1	WATER SYSTEM	COOK	10	75		01	137	
02	59		75	2	WELL	COOK	10	75		01	452	
TOTALS											6831	
SUMMARY OF DEPRECIATION												
						03	02			04		09
						MACHINES	BUILDINGS			FERT.	SUB-TOTAL	LIVESTK
PURCHASES						5907	2400				9307	[illegible]
REM COST BEG OF YEAR						14118	34521				48639	6748
DEPRECIATION-TOTAL						5477	6359				11836	397
REM COST END OF YEAR						14548	25190				39738	6757
R.C. SALES-CASUALTY							6372				6372	
ADDITNL 1ST YR DEPR						1181	680				1861	
TOTAL COST OR BASIS						53102	75421				128523	[illegible]
* IN COL 20 INDICATES : COL19 SHIFTED TO SL : COL 20 = YEARS LEFT												

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FEBRUARY 19, 1981

'ION Name:
Address:

County: 768
Farm: 003
Fieldman: 731

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FBMA II

UPERATOR NO 1

SALVAGE VALUE	INVESTMENT CREDIT THIRDS 0,1,2,3	INVESTMENT CREDIT AMOUNT TAKEN	ADDITIONAL 20% DEPR. 1ST YR. YES-1 NO-2	ADDITIONAL 20% DEPR. 1ST YR. AMOUNT TAKEN	DEPRECIATION METHOD & NO. YRS. SL 1 SL 2 DB 3 SD 4	DEPRECIATION METHOD & NO. YRS. AMOUNT YEARS	REMAINING COST BEGINNING OF YEAR	DEPRECIATION	REMAINING COST END OF YEAR
15	16	17	18	19	20	21	22	23	24
	3	7	1	15	3	7YR		11	46
5000	3	600	2		1	7YR	5607	143	5464
400	3	47	2		1	7YR	440	10	430
50	1	10	2		1	3YR	50		50
154	1	5	2		1	3YR	154		154
50	1	2	2		1	3YR		6	62
100	1	11	2		1	3YR		66	272
75	1	3	2		1	3YR	75		75
150	1	5	2		1	3YR	150		150
100	1	12	2		3	3YR	272	172	100
8600	0		2		2		8600		8600
4760	0		2		2	1	4760		4760
11700	0		2		2	1	11700		11700
6011	0		2		2	1	6011		6011
7592	0		2		2	1	7592		7592
65000	0		2		2	1	65000		65000

```
:CAPTURE*-------------------------------------------------------------
   COST        DEPR-ALLD          REM COST        GAIN LOSS     TENT RECAP
㉑ 2650            812               1838              15
   5250           1604               3646              29
    120             55                 65               1          ㉓ 8
    563            321                242               6              37
    250            115                135               2              16
    750            304                446               6              50

   9581           321                6372 ㉛           59 ㉜       ㉙ 111

-----------------------------------------------------------------------
 TOTALS  *02+*03+*04       BASIS QUALIFIED
  GRAND        REF.      COST OR INVESTMENT   ⑪             ⑫
   9713                  NEW 3-4 YRS          406           136
  55387                  NEW 5-6 YRS           ⑬            ⑭
                         NEW 7+ YRS           387           387
  12233                  USED 3-4 YR
  46495                  USED 5-6 YR           ⑮            ⑯
   6372                  USED 7+ YRS         8920          8920 ⑰
                    TOTAL QUALIFIED INV.                   9443
   1861             TOTAL TENTATIVE CREDIT                  944 ⑱
 136232             TOTAL CREDIT RECAPTURE                  111
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Farm Management Ass'ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois, Departments of Agricultural Economics.

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FBMA II

CASH FLOW

SOURCE OF FUNDS	CASH FLOW FARM PORTION	CASH FLOW ALL FUNDS
FUNDS AVAILABLE - BEG. OF PERIOD		1342
CROP SALES	148692	148692
OTHER FARM RECEIPTS	1303	1303
MCHY & BLDG SALES	1325	1325
LIVESTOCK & LVSTK PRODUCTS	28311	28311
LIVESTOCK HELD FOR BREEDING	㉟ — 3330	3330
MONEY BORROWED THIS YEAR		88652
NON-FARM INCOME		16
NON-TAXABLE RECEIPTS		583
TOTAL SOURCES OF FUNDS	182961	273554
USE OF FUNDS:		
INTEREST	9977	9977
HIRED LABOR	5261	5261
PESTICIDES	8930	8930
FERTILIZER	14696	14696
SEED	7998	7998
LIVESTOCK SUPPLIES & SERVICES	762	762
UTILITIES	1043	1043
INSURANCE	3303	3303
MISCELLANEOUS	1454	1454
TAXES	2980	2980
CASH RENT & SETTLEMENTS		
MACHINERY REPAIR	5042	5042
MACHINE HIRE	488	488
FUEL & OIL	7034	7034
AUTO-FARM SHARE	458	458
BLDG & FENCE	694	694
DRYING & STORAGE	10713	10713
CASH OPERATING SUB-TOTAL	80833	80833
FEED PURCHASES	9996	9996
LIVESTOCK PURCHASES	1669	1669
MCHY & BLDG PURCHASES	47850	47850
LAND IMPROVEMENTS		2490
PRINCIPAL PAYMENTS		80749
CONTRIBUTIONS		2510
MEDICAL		3224
LIFE INSURANCE PREMIUMS		1918
FAMILY LIVING - EXPENDABLE		15877
FAMILY LIVING - CAPITAL		1562
FAMILY EXPENSE SUB-TOTAL		25091
INCOME, SELF-EMPLOYMENT TAX		20782
INVESTMENTS		2000
NON-FARM BUSINESS EXPENSES		
FUNDS AVAILABLE - END OF PERIOD		2094
TOTAL USES OF FUNDS:	140348	273554

PROFIT & LOSS SUMMARY

FARM CASH BALANCE	42613
INVENTORY CHANGE	1177
CAPITAL CHANGE	17774
FARM PRODUCTS CONSUMED	758
CHANGE IN ACCTS/REC. ACCT PAY, PREPAID	2080
NET FARM INCOME	64402
MEMO - CASH BASIS 1040F NET FARM PROFIT	52877
SCHEDULE 1040F DEPRECIATION	30270

MAY 22, 1981

OPERATOR 1 Name: SAMPLE FARM - 1980

AL SUMMARY
PARED WITHOUT AUD Y0840 A0C17 FAM02
ON PROVIDED

County: 201
Farm: 030
Fieldman: 999

FINANCIAL STATEMENT

	MODIFIED COST BASIS		FAIR MARKET VALUE	
	BEG. OF YEAR	END OF YEAR	BEG. OF YEAR	END OF YEAR
CURRENT ASSETS				
CASH ON HAND OR IN CHECKING	1342	2094	1342	2094
CASH IN SAVINGS & TIME CD'S	7412	15459	7412	15459
HEDGING ACCOUNT BALANCE	125	125	125	125
MARKETABLE STOCKS & BONDS	20000	20000	20000	20000
NOTES & ACCOUNTS RECEIVABLE	200	200	200	200
CROPS & FEED	144761	143390	144761	143390
MARKET LIVESTOCK	10090	10220	10090	10220
PREPAID EXPENSES	9269	9269	9269	9269
OTHER, NON FARM				
TOTAL CURRENT ASSETS	193199	200757	193199	200757
INTERMEDIATE ASSETS				
NOTES & ACCOUNTS RECEIVABLE	1000	1000	1000	1000
MACHINERY, EQUIPMENT, & AUTO F/S	95064	115080	135000	170000
BREEDING LIVESTOCK	7012	9530	8000	10500
CASH VALUE OF LIFE INSURANCE	2951	3412	2951	3412
SECURITIES NOT READILY MARKETABLE	1200	1200	1200	1200
HOME FURN., PERS. ITEMS	6531	7937	6531	7937
OTHER	1500	1500	1500	1500
TOTAL INTERMEDIATE ASSETS	115258	139659	156182	195549
FIXED ASSETS				
FARM REAL ESTATE-BARE LAND* 175 ACRES AT 3510 $ / ACRE	568830	568830	614336	614336
BUILDINGS & IMPROVEMENTS	23248	21006		
PERSONAL RESIDENCE				
OTHER NON-FARM REAL ESTATE				
CONTRACTS & NOTES RECEIVABLE				
OTHER				
*MODIFIED = 1979 BASE LAND VALUE, FMV ADJ. BY INDEX. 1.08				
TOTAL FIXED ASSETS	592078	589836	614336	614336
TOTAL ASSETS	900535	930252	963717	1010642
CURRENT LIABILITIES				
OPERATING, SHORT TERM NOTES, < 1 yr.	13409	29263	13409	29263
ACCOUNTS PAYABLE W/MERCH. & DEALERS				
ACCRUED TAXES - INCOME, SS., R.E.	20000	22000	20000	22000
ACCRUED INTEREST	6000	4200	6000	4200
PRINCIPAL DUE WITHIN 12 MONTHS:				
INTERMEDIATE TERM NOTES	8578	16578	8578	16578
LONG TERM NOTES	27444	8510	27444	8510
OTHER	3929		3929	
TOTAL CURRENT LIABILITIES	79360	80551	79360	80551
INTERMEDIATE LIABILITIES				
DEFERRED PORTION INTERMED. NOTES	8578	24000	8578	24000
LIFE INSURANCE POLICY LOANS				
OTHER				
TOTAL INTERMEDIATE LIABILITIES	8578	24000	8578	24000
LONG TERM LIABILITIES				
DEFERRED PORTION R.E. MORTGAGES				
DEFERRED PORTION LAND CONTRACTS	62247	53737	62247	53737
OTHER				
TOTAL LONG TERM LIABILITIES	62247	53737	62247	53737
CONTINGENT TAX LIABILITY			55000	62000
TOTAL LIABILITIES	150185	158288	205185	220288
NET WORTH	750350	771964	758532	790354
CHANGE IN NET WORTH		21614		31822

Farm Management Ass'ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois, Departments of Agricultural Economics

Form **3468**
Department of the Treasury
Internal Revenue Service

Computation of Investment Credit

▶ Attach to your tax return.

1980

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Name

Identifying numb of your tax returr HO-32 FBMA II page 1

Check the box(es) below that apply to you:

A The corporation elects the basic or basic and matching employee plan percentage under section 48(n)(1) . . . . ☐
B I elect to increase my qualified investment to 100% for certain commuter highway vehicles under section 46(c)(6) . . . . . . ☐
C I elect to increase my qualified investment by all qualified progress expenditures made this tax year and all later years . . . ☐
D I claim full credit on certain ships under section 46(g)(3). (See the General Instructions for details.) . . . . ☐

1 Use the format below to list your qualified investment in new or used property acquired or constructed and placed in service during the tax year. Also list qualified progress expenditures made during the tax year and qualified rehabilitation expenditures for the year. See the instructions for lines 1(a) through 1(i).
Note: *Include your share of investment in property made by a partnership, estate, trust, small business corporation, or lessor.*

Type of property	Line	(1) Life years	(2) Cost or basis	(3) Applicable percentage	(4) Qualified investment (Column 2 x column 3)
New property	(a)	3 or more but less than 5	⑪	33⅓	⑫
	(b)	5 or more but less than 7		66⅔	
	(c)	7 or more	⑬	100	⑭
New commuter highway vehicle	(d)	3 or more		100	
Qualified progress expenditures	(e)	7 or more		100	
Used property (See instructions for dollar limits)	(f)	3 or more but less than 5		33⅓	
	(g)	5 or more but less than 7		66⅔	
	(h)	7 or more	⑮	100	⑯
Used commuter highway vehicle	(i)	3 or more		100	

2 Qualified investment—Add lines 1(a) through (i) (see General Instructions for special limits) . . . . ⑰
3 10% of line 2 (see instruction for line 3 for special limits) . . . . ⑱
4 Corporations electing the basic or basic and matching employee plan percentage for contributions to tax credit employee stock ownership plans—Check election box A above (see instruction or line 4).
(a) Basic 1% credit—Enter 1% of line 2 . . . .
(b) Matching credit (not more than 0.5%)—Enter allowable percentage times adjusted line 2 (attach schedule) . . .
5 Regular investment credit from cooperative . . . .
6 Total—Add lines 3 through 5 . . . .
7 Carryover of unused credit(s) . . . .
8 Carryback of unused credit(s) . . . .
9 Tentative regular investment credit—Add lines 6, 7, and 8 . . . .

Tax Liability Limitations

10 (a) Individuals—Enter amount from Form 1040, line 37, page 2 . . . . . .
(b) Estates and trusts—Enter amount from Form 1041, line 26, page 1 . . . .
(c) Corporations—Enter amount from Schedule J (Form 1120), line 3, page 3 .
(d) Others—Enter tax before credits from your return . . . .
11 (a) Credit for the elderly (individuals only) . . . .
(b) Foreign tax credit . . . .
(c) Tax on lump-sum distribution from Form 4972 or Form 5544 . . . . . .
(d) Possessions corporation tax credit (corporations only) . . . .
(e) Section 72(m)(5) penalty tax (individuals only) . . . .
12 Total—Add lines 11(a) through (e) . . . .
13 Subtract line 12 from line 10 . . . .
14 (a) Enter smaller of line 13 or $25,000. See instruction for line 14 . . . .
(b) If line 13 is more than line 14(a) and you are a 1980 calendar year taxpayer, enter 70% of the excess (if your tax year ends in 1981, enter 80% of the excess). (Railroads, and airlines see instruction for line 14.) . . . .
15 Regular investment credit limitation—Add lines 14(a) and (b) . . . .
16 Allowed regular investment credit—Enter the smaller of line 9 or line 15 . . . .
17 Business energy investment credit limitation—subtract line 16 from line 13 . . . .
18 Business energy investment credit (from line 11, Schedule B on page 2) . . . .
19 Allowed business energy investment credit—Enter smaller of line 17 or line 18 . . . .
20 Total allowed regular and business energy investment credit—Add lines 16 and 19. Enter here and on Form 1040, line 41; Schedule J (Form 1120), line 4(b), page 3; or the proper line on other returns . . . .

Schedule A If any part of your investment in line 1, page 1, or Schedule B below was made by a partnership, estate, trust, small business corporation, or lessor, complete the following schedule and identify property qualifying for the regular or energy investment credit.

Name (Partnership, estate, trust, etc.)	Address	Property			
		Progress expenditures	New	Used	
		$	$	$	

Schedule B Business Energy Investment Credit (See Instructions for line 18.)

List your qualified investment in new energy property acquired or constructed and placed in service during the tax year. Also list qualified progress expenditures made during the tax year.

Type of Property	(1) Life years	(2) Cost or basis	(3) Applicable percentage	(4) Qualified investment (Column 2 x column 3)
1 (a) Alternative energy property	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(b) Specially defined energy property	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(c) Recycling equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(d) Shale oil equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(e) Equipment for producing natural gas from geopressured brine	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(f) Cogeneration equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(g) Qualified intercity buses	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(h) Total 10% energy investment property (add lines 1(a) through (g))			▨	
2 (a) Qualified hydroelectric generating equipment Nameplate KWH ▶	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(b) Total 11% energy investment property (add line 2(a)) . .			▨	
3 (a) Solar and wind equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(b) Ocean thermal equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(c) Geothermal equipment	3 or more but less than 5		33⅓	
	5 or more but less than 7		66⅔	
	7 or more		100	
(d) Total 15% energy investment property (add lines 3(a) through 3(c))			▨	

4 Enter 10% of line 1(h) column (4) . . . .
5 Enter 11% of line 2(b) column (4) . . . .
6 Enter 15% of line 3(d) column (4) . . . .
7 Business energy investment credit from cooperative . . . .
8 Current year business energy investment credit—Add lines 4 through 7 . . . .
9 Carryover of unused credit(s) . . . .
10 Carryback of unused credit(s) . . . .
11 Tentative business energy investment credit—Add lines 8 through 10. Enter here and on line 18 on page 1 . . . .

Form **4255**
(Rev. Oct. 1980)
Department of the Treasury
Internal Revenue Service

Recapture of Investment Credit

(Including Energy Investment Credit)

► Attach to your income tax return

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FBMA II

For the calendar year 19........, or other tax year beginning ...., 19........, and ending ...., 19........

Name

Identifying number as shown on page 1 of your tax return

For disposed qualified progress expenditure property, see instructions for line 17.

Properties	Kind of property. (State whether new or used. If energy property, give type.)
A	19
B	
C	
D	
E	

	Computation Steps:	A	B	C	D	E
Original Investment Credit	1 Original rate of credit . . .					
	2 Date property was placed in service	20				
	3 Cost or other basis	21				
	4 Original estimated useful life .					
	5 Applicable percentage . . .					
	6 Original qualified investment (line 3 times line 5)					
	7 Original credit (line 1 times line 6)					
Refigured Investment Credit	8 Date item ceased to be investment credit property . . .	22				
	9 Period actually used . . .					
	10 Applicable percentage . . .					
	11 Qualified investment (line 3 times line 10)					
	12 Refigured credit (line 1 times line 11)					
Increase in Tax	13 Tentative recapture (subtract line 12 from line 7)	23				

Increase in Tax	14 Add line 13, columns A through E	24
	15 Unused credit (see instructions)	
	16 Increase in tax (subtract line 15 from line 14)	
	17 Enter tax from disposed qualified progress expenditure property (attach computation)	
	18 Total increase in tax (add lines 16 and 17). Enter here and on the proper line of your tax return. Do not use this amount to reduce current year's investment credit figured on Form 3468, Computation of Investment Credit. Any unused credit on line 15 cannot be used in any year as a carryback or carryover .	

Purpose.—An individual, estate, trust or corporation may use Form 4255 to figure the increase in tax for the recapture of investment credit for regular and energy property. You must refigure the credit if you took it in an earlier year, but later disposed of the property before the end of the useful life you used to figure the original credit. You must also refigure the credit if you changed the use of the property so that it no longer qualified as regular or energy investment credit property. You need not refigure the credit if you held the property 7 or more years. For more information on the recapture of regular or energy investment credit, see **Publication 572,** Investment Credit.

If property on which you took both the regular and energy investment credit ceases to be energy credit property, but still qualifies as regular investment credit property, you need only refigure the energy investment credit. However, if you took both credits, and you dispose of the property, or the property ceases to be both energy and regular investment credit property, you must refigure both credits.

If you are a small business corporation, a partnership, or an estate or trust that shared the investment credit among the estate or trust and the beneficiaries, you must give your shareholders, partners, or beneficiaries the information they need to refigure the credit. See regulations sections 1.47–4, 1.47–5 and 1.47–6.

Special rules.—If you took the credit on the following kinds of property, see the Internal Revenue Code section listed before you complete Form 4255.

Property	IRC section
Motion picture films and video tape	47(a)(7)
Ships	46(g)(4)
Commuter highway vehicles	47(a)(4)

If you dispose of property and you had elected the basic or basic and matching employee plan percentage for contributions to tax credit employee stock option plans, see section 48(n)(4).

If you took an investment credit on railroad property, and then transferred the property to Conrail after March 31, 1976, you do not have to refigure the credit.

If you took any credit for production of fuel from non-conventional sources, see section 44D(b)(4).

Specific Instructions

Lines A through E.—Describe the property for which you must refigure the credit for regular or energy investment. Tell whether the property was new or used, and give the type of energy property.

Fill in lines 1 through 13 for each property on which you are refiguring the credit. Use a separate column for each item. If you must recapture both the energy investment credit and the regular investment credit for the same item, use a separate column for each credit. If you need more columns, use additional Forms 4255, or other schedule with all the information shown on Form 4255. Enter the total from the separate sheets on line 14.

Line 1.—Enter the rate you used to figure the original credit (see section 46(a)(2)):

Regular Investment Property:

Public utility property ordered after March 31, 1971, or acquired after August 15, 1971, and before January 22, 1975	4%
Property acquired or constructed before January 22, 1975	7%
Property (including public utility property) acquired or constructed and placed in service after January 21, 1975	10%

(The part constructed before January 22, 1975, is at the 7% (or 4%) rate, even if placed in service after that date.)

Energy Investment Property:

Alternative energy property, specially defined energy property, recycling equipment, shale oil equipment, equipment for producing natural gas from geopressured brine, cogeneration equipment, and intercity buses	10%
Qualified hydroelectric generating equipment	11%
Solar and wind equipment acquired or constructed before 1/1/80	10%
Solar and wind equipment, ocean thermal equipment, and geothermal equipment acquired or constructed after 12/31/79	15%

Line 2.—Enter the first day of the first month and the year that the property was available for service.

Line 3.—Enter the cost or other basis of the property that you used to figure the original credit.

Line 4.—Enter the estimated useful life of the property that you used to figure the original credit.

Line 5.—Enter the percentage of the cost or other basis that you used to figure the original qualified investment.

Original estimated useful life:	Applicable percentage
3 or more but less than 5 years	33⅓%
5 or more but less than 7 years	66⅔%
7 or more years	100%

Line 6.—Multiply line 3 by line 5 to get the original qualified investment.

Line 7.—Multiply line 6 by the rate on line 1 to get the original investment credit.

Line 8.—Enter the date the property ceased to be qualified property. See regulation section 1.47–1(c) for more information.

Line 9.—Enter the number of years you actually used the property as regular or energy investment property.

Line 10.—Enter the percentage of the cost or basis you will use to refigure the qualified investment:

Actual Useful Life:	Percentage
Less than 3 years	0%
3 or more but less than 5 years	33⅓%
5 or more but less than 7 years	66⅔%

Line 11.—Multiply line 3 by the percentage on line 10 to get the refigured qualified investment.

Line 12.—Multiply line 11 by the rate on line 1 to get the refigured investment credit.

Line 13.—Subtract the credit on line 12 from the original credit on line 7. This is the maximum credit to be recaptured.

Line 14.—Add line 13, columns A through E. If you have more than one Form 4255, or have used separate sheets to list additional items on which you figured an increase in tax, write on the dotted line "Tax from attached, $..............". Include the amount in the total for line 14.

Line 15.—If you did not use all the credit you originally figured, either in the year you figured the credit or in a carryback or carryover year, you have an unused credit. You must also take into account the current year's unused credit in figuring the increase in tax. See regulations section 1.47–1(d), Revenue Ruling 72–221, and **Publication 572** for more information.

Figure the unused credit on a separate sheet and enter the total unused credit on this line. Do not enter more than the tentative recapture on line 14.

Line 17.—See section 47(a)(3) for information on recapturing investment credit on the disposal of qualified progress expenditure property. Attach a separate computation and enter the total increase in tax on this line.

Line 18.—Add lines 16 and 17. This is the total increase in tax. Enter it on the proper line of your tax return. Do not use this amount to reduce your current year's investment credit from Form 3468, Computation of Investment Credit.

Examples

(1) All of the credit is recaptured.—On January 1, 1978, D put in use $9,000 of qualified property with a useful life of 8 years. D took a credit of $900 ($9,000 × 100% × 10% investment credit). All of the credit was used in 1978 to reduce D's tax liability. D has no unused investment credit for the current year. On November 1, 1980, D sold the property. Because D held the property less than 3 years, no investment credit is allowable. Therefore, D must add all of the $900 to his tax for 1980. This is the difference between the $900 credit D took in 1978 and the $0 credit allowable.

(2) Part of the credit is recaptured.—Assume the same facts as (1) above, except that D put the property into use in September, 1977. D would add $600 to his tax for 1980, figured as follows:

Line:	
Original Investment Credit	
1 Rate	10%
3 Cost or other basis	$9,000
4 Estimated life	8 years
5 Applicable percentage	100%
6 Qualified investment	$9,000
7 Original credit	$900
Refigured Investment Credit	
9 Period actually used	3 years
10 Applicable percentage	33⅓%
11 Qualified investment	$3,000
12 Refigured credit	$300
Increase in Tax	
13 Tentative recapture ($900–$300)	$600
15 Unused credit	$0
16 Increase in tax	$600

(3) Unused credit.—Assume the same facts as in (2) above, except that D only used $200 of the credit in 1977, $300 in 1978, and zero in 1979. This leaves $400 of unused credit ($900 original credit, minus $200 in 1977 and $300 in 1978). D would add only $200 to his tax for 1980, figured as follows:

Increase in Tax	
13 Tentative recapture	$600
15 Unused credit	$400
16 Increase in tax	$200

D would no longer have an investment credit carryover, since it was all used to reduce the credit to be recaptured.

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Form **4797**

Department of the Treasury
Internal Revenue Service

Supplemental Schedule of Gains and Losses

(Includes Gains and Losses From Sales or Exchanges of Assets Used in a Trade or Business and Involuntary Conversions)
To be filed with Form 1040, 1041, 1065, 1120, etc.—See Separate Instructions

1980

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Name(s) as shown on return

Identifying number as s of your tax return

Part I Sales or Exchanges of Property Used in a Trade or Business, and Involuntary Conversions From Other Than Casualty and Theft—Property Held More Than 1 Year (Except for Certain Livestock)

Note: *Use Form 4684 to report involuntary conversions from casualty and theft.*
Caution: *If you sold property on which you claimed the investment credit, you may be liable for recapture of that credit. See Form 4255 for additional information.*

a. Kind of property (if necessary, attach additional descriptive details not shown below)	b. Date acquired (mo., day, yr.)	c. Date sold (mo., day, yr.)	d. Gross sales price minus expense of sale	e. Depreciation allowed (or allowable) since acquisition	f. Cost or other basis, plus improvements	g. LOSS (f minus d plus e)	h. GAIN (d plus e minus f)
1		23					

2 Gain, if any, from Form 4684, Part II, line 25 . . . .

3 Gain, if any, from line 26, Part III, on back of this form attributable to other than casualty and theft . . . .

4 Add lines 1 through 3 in column g and column h . . . .

5 Combine line 4, column g and line 4, column h. Enter here, and on the appropriate line as follows:
(a) For all except partnership returns:
(1) If line 5 is a gain, enter the gain as a long-term capital gain on Schedule D (Form 1040, 1120, etc.) that is being filed. See instruction E.
(2) If line 5 is zero or a loss, enter that amount on line 6.
(b) For partnership returns: Enter the amount shown on line 5 above, on Schedule K (Form 1065), line 8.

Part II Ordinary Gains and Losses

a. Kind of property (if necessary, attach additional descriptive details not shown below)	b. Date acquired (mo., day, yr.)	c. Date sold (mo., day, yr.)	d. Gross sales price minus expense of sale	e. Depreciation allowed (or allowable) since acquisition	f. Cost or other basis, plus improvements	g. LOSS (f minus d plus e)	h. GAIN (d plus e minus f)
6 Loss, if any, from line 5(a)(2)							▨
7 Gain, if any, from line 25, Part III on back of this form						▨	
8 Net gain or (loss) from Form 4684, lines 17 and 24a							
9 Other ordinary gains and losses (include property held 1 year or less):						▨	▨

10 Add lines 6 through 9 in column g and column h . . . .

11 Combine line 10, column g and line 10, column h. Enter here, and on the appropriate line as follows:
(a) For all except individual returns: Enter the gain or (loss) shown on line 11, on the line provided for on the return (Form 1120, etc.) being filed. See instruction F for specific line reference.
(b) For individual returns:
(1) If the loss on line 6 includes a loss from Form 4684, Part II, column B(ii), enter that part of the loss here and on line 29 of Schedule A (Form 1040). Identify as from "Form 4797, line 11(b)(1)" . . . . . .
(2) Redetermine the gain or (loss) on line 11, excluding the loss (if any) entered on line 11(b)(1). Enter here and on Form 1040, line 16 . . . .

Part III Gain From Disposition of Property Under Sections 1245, 1250, 1251, 1252, 1254, 1255

Skip lines 20 and 21 if there are no dispositions of farm property or farmland, or if this form is filed by a partnership.

12 Description of sections 1245, 1250, 1251, 1252, 1254, and 1255 property:	Date acquired (mo., day, yr.)	Date sold (mo., day, yr.)
(A) 25	26	27
(B)		
(C)		
(D)		

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gh 12(D) to these columns ▶▶▶	Property (A)	Property (B)	Property (C)	Property (D)
13 Gross sales price minus expense of sale	㉘			
14 Cost or other basis	㉙			
15 Depreciation (or depletion) allowed (or allowable)	㉚			
16 Adjusted basis, subtract line 15 from line 14	㉛			
17 Total gain, subtract line 16 from line 13	㉜			
18 If section 1245 property:				
(a) Depreciation allowed (or allowable) after applicable date (see instructions)				
(b) Enter smaller of line 17 or 18(a)				
19 If section 1250 property:				
(a) Additional depreciation after 12/31/75 (see instructions)				
(b) Applicable percentage times the smaller of line 17 or line 19(a) (see instruction G.4)				
(c) Subtract line 19(a) from line 17. (If line 17 is not more than line 19(a), skip lines 19(d) through 19(h). Enter the amount from line 19(b) on line 19(i).)				
(d) Additional depreciation after 12/31/69 and before 1/1/76				
(e) Applicable percentage times the smaller of line 19(c) or 19(d) (see instruction G.4)				
(f) Subtract line 19(d) from line 19(c). (If line 19(c) is not more than line 19(d), skip lines 19(g) and 19(h). Combine the amounts on lines 19(b) and 19(e) on line 19(i).)				
(g) Additional depreciation after 12/31/63 and before 1/1/70				
(h) Applicable percentage times the smaller of line 19(f) or 19(g) (see instruction G.4)				
(i) Add lines 19(b), 19(e), and 19(h)				
20 If section 1251 property:				
(a) If farmland, enter soil, water, and land clearing expenses for current year and the four preceding years				
(b) If farm property other than land, subtract line 18(b) from line 17; if farmland, enter smaller of line 17 or 20(a) (see instruction G.5)				
(c) Excess deductions account (see instruction G.5)				
(d) Enter smaller of line 20(b) or 20(c)				
21 If section 1252 property:				
(a) Soil, water, and land clearing expenses made after 12/31/69				
(b) Amount from line 20(d), if none enter a zero				
(c) Subtract line 21(b) from line 21(a). (If line 21(b) is more than line 21(a), enter zero.)				
(d) Line 21(c) times applicable percentage (see instruction G.5)				
(e) Subtract line 21(b) from line 17				
(f) Enter smaller of line 21(d) or 21(e)				
22 If section 1254 property:				
(a) Intangible drilling and development costs deducted after 12/31/75 (see instruction G.6)				
(b) Enter smaller of line 17 or 22(a)				
23 If section 1255 property:				
(a) Applicable percentage of payments excluded from income under section 126 (see instruction G.7)				
(b) Enter the smaller of line 17 or 23(a)				

Summary of Part III Gains (Complete Property columns (A) through (D) through line 23(b) before going to line 24)

24 Total gains for all properties (add columns (A) through (D), line 17)	
25 Add columns (A) through (D), lines 18(b), 19(i), 20(d), 21(f), 22(b) and 23(b). Enter here and on Part II, line 7	
26 Subtract line 25 from line 24. Enter the portion attributable to casualty and theft on Form 4684, line 19; enter the portion attributable to other than casualty and theft on Form 4797, Part I, line 3	

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SCHEDULE SE
(Form 1040)
Department of the Treasury
Internal Revenue Service

Computation of Social Security Self-Employment Tax

▶ See Instructions for Schedule SE (Form 1040).
▶ Attach to Form 1040.

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Name of self-employed person (as shown on social security card)

Social security number of self-employed person ▶

(34)

Part I Computation of Net Earnings from FARM Self-Employment

Regular Method			
1 Net profit or (loss) from:			
a Schedule F (Form 1040)	1a		
b Farm partnerships	1b		
2 Net earnings from farm self-employment (add lines 1a and 1b)	2		
Farm Optional Method			
3 If gross profits from farming are: a Not more than $2,400, enter two-thirds of the gross profits b More than $2,400 and the net farm profit is less than $1,600, enter $1,600	3		
4 Enter here and on line 12a, the amount on line 2, or line 3 if you elect the farm optional method	4		

Part II Computation of Net Earnings from NONFARM Self-Employment

SE

Regular Method			
5 Net profit or (loss) from:			
a Schedule C (Form 1040)	5a		
b Partnerships, joint ventures, etc. (other than farming)	5b		
c Service as a minister, member of a religious order, or a Christian Science practitioner. (Include rental value of parsonage or rental allowance furnished.) If you filed Form 4361 and have not revoked that exemption, check here ▶ ☐ and enter zero on this line	5c		
d Service with a foreign government or international organization	5d		
e Other (specify) ▶	5e		
6 Total (add lines 5a through 5e)	6		
7 Enter adjustments if any (attach statement, see page 29 of Instructions)	7		
8 Adjusted net earnings or (loss) from nonfarm self-employment (line 6, as adjusted by line 7)	8		
Note: *If line 8 is $1,600 or more or if you do not elect to use the Nonfarm Optional Method, skip lines 9 through 11 and enter amount from line 8 on line 12b.*			
Nonfarm Optional Method			
9 a Maximum amount reportable under both optional methods combined (farm and nonfarm)	9a	$1,600	00
b Enter amount from line 3. (If you did not elect to use the farm optional method, enter zero.)	9b		
c Balance (subtract line 9b from line 9a)	9c		
10 Enter two-thirds of gross nonfarm profits or $1,600, whichever is smaller	10		
11 Enter here and on line 12b, the amount on line 9c or line 10, whichever is smaller	11		

Part III Computation of Social Security Self-Employment Tax

12 Net earnings or (loss):			
a From farming (from line 4)	12a		
b From nonfarm (from line 8, or line 11 if you elect to use the Nonfarm Optional Method)	12b		
13 Total net earnings or (loss) from self-employment reported on lines 12a and 12b. (If line 13 is less than $400, you are not subject to self-employment tax. Do not fill in rest of schedule)	13		
14 The largest amount of combined wages and self-employment earnings subject to social security or railroad retirement taxes for 1980 is	14	$25,900	00
15 a Total "FICA" wages (from Forms W-2) and "RRTA" compensation — 15a			
b Unreported tips subject to FICA tax from Form 4137, line 9 or to RRTA — 15b			
c Add lines 15a and 15b	15c		
16 Balance (subtract line 15c from line 14)	16		
17 Self-employment income—line 13 or 16, whichever is smaller	17		
18 Self-employment tax. (If line 17 is $25,900, enter $2,097.90; if less, multiply the amount on line 17 by .081.) Enter here and on Form 1040, line 48	18		

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Form 1040 U.S. Individual Income Tax Return 1980

Department of the Treasury—Internal Revenue Service

For Privacy Act Notice, see Instructions | For the year January 1–December 31, 1980, or other tax year beginning , 1980, ending , 19

Use IRS label. Otherwise, please print or type.

Your first name and initial (if joint return, also give spouse's name and initial) | Last name | Your social security number

Present home address (Number and street, including apartment number, or rural route) | Spouse's social security no.

City, town or post office, State and ZIP code | Your occupation ▶ | Spouse's occupation ▶

Presidential Election Campaign Fund ▶

Do you want $1 to go to this fund?	___ Yes	___ No
If joint return, does your spouse want $1 to go to this fund? . . .	Yes	No

Note: *Checking "Yes" will not increase your tax or reduce your refund.*

Requested by Census Bureau for Revenue Sharing ▶

A Where do you live (actual location of residence)? (See page 2 of Instructions.) State | City, village, borough, etc.

B Do you live within the legal limits of a city, village, etc.? ☐ Yes ☐ No

C In what county do you live?

D In what township do you live?

Filing Status

Check only one box.

1 ☐ Single
2 ☐ Married filing joint return (even if only one had income)
3 ☐ Married filing separate return. Enter spouse's social security no. above and full name here ▶
4 ☐ Head of household. (See page 6 of Instructions.) If qualifying person is your unmarried child, enter child's name ▶
5 ☐ Qualifying widow(er) with dependent child (Year spouse died ▶ 19). (See page 6 of Instructions.)

For IRS use only

Exemptions

Always check the box labeled Yourself. Check other boxes if they apply.

6a ☐ Yourself ☐ 65 or over ☐ Blind
b ☐ Spouse ☐ 65 or over ☐ Blind
Enter number of boxes checked on 6a and b ▶ ☐

c First names of your dependent children who lived with you ▶
Enter number of children listed on 6c ▶ ☐

d Other dependents:

(1) Name	(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of $1,000 or more?	(5) Did you provide more than one-half of dependent's support?

Enter number of other dependents ▶ ☐

7 Total number of exemptions claimed . . . . Add numbers entered in boxes above ▶ ☐

Income

Please attach Copy B of your Forms W-2 here.

If you do not have a W-2, see page 5 of Instructions.

Please attach check or money order here.

8 Wages, salaries, tips, etc. 8
9 Interest income (*attach Schedule B if over $400*) 9
10a Dividends (*attach Schedule B if over $400*) ________, 10b Exclusion ________
c Subtract line 10b from line 10a 10c
11 Refunds of State and local income taxes (*do not enter an amount unless you deducted those taxes in an earlier year—see page 9 of Instructions*) 11
12 Alimony received 12
13 Business income or (loss) (*attach Schedule C*) 13
14 Capital gain or (loss) (*attach Schedule D*) 14
15 40% of capital gain distributions not reported on line 14 (See page 9 of Instructions) . 15
16 Supplemental gains or (losses) (*attach Form 4797*) 16
17 Fully taxable pensions and annuities not reported on line 18 17
18 Pensions, annuities, rents, royalties, partnerships, etc. (*attach Schedule E*) 18
19 Farm income or (loss) (*attach Schedule F*) 19
20a Unemployment compensation (insurance). Total received ________
b Taxable amount, if any, from worksheet on page 10 of Instructions 20b
21 Other income (state nature and source—see page 10 of Instructions) ▶ 21
22 Total income. Add amounts in column for lines 8 through 21 . . . . ▶ 22

Adjustments to Income

(See Instructions on page 10)

23 Moving expense (*attach Form 3903 or 3903F*) 23
24 Employee business expenses (*attach Form 2106*) . . 24
25 Payments to an IRA (enter code from page 10 ....) . 25
26 Payments to a Keogh (H.R. 10) retirement plan . . . 26
27 Interest penalty on early withdrawal of savings . . . 27
28 Alimony paid 28
29 Disability income exclusion (*attach Form 2440*) . . . 29
30 Total adjustments. Add lines 23 through 29 . . . . ▶ 30

Adjusted Gross Income

31 Adjusted gross income. Subtract line 30 from line 22. *If this line is less than $10,000, see "Earned Income Credit" (line 57) on pages 13 and 14 of Instructions. If you want IRS to figure your tax, see page 3 of Instructions* . . . . ▶ 31

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Form **1040** (1980)

Tax Computation
(See Instructions on page 11)

32 Amount from line 31 (*adjusted gross income*) . . . 32

33 If you do not itemize deductions, enter zero . . . 33
If you itemize, complete Schedule A (Form 1040) and enter the amount from Schedule A, line 41 . . .

Caution: If you have unearned income and can be claimed as a dependent on your parent's return, check here ▶ ☐ and see page 11 of the Instructions. Also see page 11 of the Instructions if:

- *You are married filing a separate return and your spouse itemizes deductions, OR*
- *You file Form 4563, OR*
- *You are a dual-status alien.*

34 Subtract line 33 from line 32. Use the amount on line 34 to find your tax from the Tax Tables, or to figure your tax on Schedule TC, Part I . . . 34

Use Schedule TC, Part I, and the Tax Rate Schedules ONLY if:

- *Line 34 is more than $20,000 ($40,000 if you checked Filing Status Box 2 or 5), OR*
- *You have more exemptions than are shown in the Tax Table for your filing status, OR*
- *You use Schedule G or Form 4726 to figure your tax.*

Otherwise, you MUST use the Tax Tables to find your tax.

35 Tax. Enter tax here and check if from ☐ Tax Tables or ☐ Schedule TC . . . 35

36 Additional taxes. (See page 12 of Instructions.) Enter here and check if from ☐ Form 4970, ☐ Form 4972, ☐ Form 5544, ☐ Form 5405, or ☐ Section 72(m)(5) penalty tax . . . 36

37 **Total.** Add lines 35 and 36 . . . ▶ 37

Credits
(See Instructions on page 12)

38 Credit for contributions to candidates for public office . . . 38

39 Credit for the elderly (*attach Schedules R&RP*) . . . 39

40 Credit for child and dependent care expenses (*attach Form 2441*) . 40

41 Investment credit (*attach Form 3468*) . . . 41

42 Foreign tax credit (*attach Form 1116*) . . . 42

43 Work incentive (WIN) credit (*attach Form 4874*) . . . 43

44 Jobs credit (*attach Form 5884*) . . . 44

45 Residential energy credits (*attach Form 5695*) . . . 45

46 **Total credits.** Add lines 38 through 45 . . . 46

47 **Balance.** Subtract line 46 from line 37 and enter difference (but not less than zero) . ▶ 47

Other Taxes
(Including Advance EIC Payments)

48 Self-employment tax (*attach Schedule SE*) . . . 48

49a Minimum tax. Attach Form 4625 and check here ▶ ☐ . . . 49a

49b Alternative minimum tax. Attach Form 6251 and check here ▶ ☐ . . . 49b

50 Tax from recomputing prior-year investment credit (*attach Form 4255*) . . . 50

51a Social security (FICA) tax on tip income not reported to employer (*attach Form 4137*) . . 51a

51b Uncollected employee FICA and RRTA tax on tips (*from Form W–2*) . . . 51b

52 Tax on an IRA (*attach Form 5329*) . . . 52

53 Advance earned income credit (EIC) payments received (from Form W–2) . . . 53

54 **Balance.** Add lines 47 through 53 . . . ▶ 54

Payments
Attach Forms W-2, W-2G, and W-2P to front.

55 Total Federal income tax withheld . . . 55

56 1980 estimated tax payments and amount applied from 1979 return . . 56

57 Earned income credit. If line 32 is under $10,000, see pages 13 and 14 of Instructions . . . 57

58 Amount paid with Form 4868 . . . 58

59 Excess FICA and RRTA tax withheld (two or more employers) 59

60 Credit for Federal tax on special fuels and oils (*attach Form 4136 or 4136–T*) . . . 60

61 Regulated Investment Company credit (*attach Form 2439*) 61

62 **Total.** Add lines 55 through 61 . . . ▶ 62

Refund or Balance Due

63 If line 62 is larger than line 54, enter amount **OVERPAID** . . . ▶ 63

64 Amount of line 63 to be **REFUNDED TO YOU** . . . ▶ 64

65 Amount of line 63 to be applied to your 1981 estimated tax . . . ▶ 65

66 If line 54 is larger than line 62, enter **BALANCE DUE.** Attach check or money order for full amount payable to "Internal Revenue Service." Write your social security number on check or money order . . ▶ 66
(Check ▶ ☐ if Form 2210 (2210F) is attached. See page 15 of Instructions.) ▶ $

Please Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

▶ Your signature Date

▶ Spouse's signature (if filing jointly, BOTH must sign even if only one had income)

Paid Preparer's Use Only

Preparer's signature and date ▶

Check if self-employed ▶ ☐

Preparer's social security no.

Firm's name (or yours, if self-employed) and address ▶

E.I. No. ▶

ZIP code ▶

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SCHEDULE D
(Form 1040)
Department of the Treasury
Internal Revenue Service

Capital Gains and Losses

(Examples of property to be reported on this Schedule are gains and losses on stocks, bonds, and similar investments, and gains (but not losses) on personal assets such as a home or jewelry.)

▶ Attach to Form 1040. ▶ See Instructions for Schedule D (Form 1040).

Name(s) as shown on Form 1040

Your social security number

Part I Short-term Capital Gains and Losses—Assets Held One Year or Less

D

a. Kind of property and description (Example, 100 shares 7% preferred of "Z" Co.)	b. Date acquired (Mo., day, yr.)	c. Date sold (Mo., day, yr.)	d. Gross sales price less expense of sale	e. Cost or other basis, as adjusted (see instructions page 21)	f. LOSS If column (e) is more than (d) subtract (d) from (e)	g. GAIN if column (d) is more than (e) subtract (e) from (d)
1						

2 Gain from sale or exchange of a principal residence held one year or less, from Form 2119, lines 7 or 11 2

3 Enter your share of net short-term gain or (loss) from partnerships and fiduciaries 3

4 Add lines 1, 2 and 3 in column f and column g 4

5 Combine line 4, column f and line 4, column g and enter the net gain or (loss) 5

6 Short-term capital loss carryover from years beginning after 1969 . . . . 6 ( )

7 Net short-term gain or (loss), combine lines 5 and 6 7

Part II Long-term Capital Gains and Losses—Assets Held More Than One Year

8						

9 Gain from sale or exchange of a principal residence held more than one year, from Form 2119, lines 7, 11, or 18 9

10 Enter your share of net long-term gain or (loss) from partnerships and fiduciaries 10

11 Add lines 8, 9 and 10 in column f and column g 11

12 Combine line 11, column f and line 11, column g and enter the net gain or (loss) 12

13 Capital gain distributions 13

14 Enter gain, if applicable, from Form 4797, line 5(a)(1) 14

15 Enter your share of net long-term gain from small business corporations (Subchapter S) 15

16 Combine lines 12 through 15 16

17 Long-term capital loss carryover from years beginning after 1969 . . . . 17 ( )

18 Net long-term gain or (loss), combine lines 16 and 17 18

Note: *If you have capital loss carryovers from years beginning before 1970, do not complete rest of form. See Form 4798 instead. Otherwise, complete this form on reverse.*

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of Parts I and II

19 Combine lines 7 and 18, and enter the net gain or (loss) here	19		
20 If line 19 shows a gain—			
a Enter 60% of line 18 or 60% of line 19, whichever is smaller. Enter zero if there is a loss or no entry on line 18 *If the amount you enter on this line is other than zero, you may be liable for the alternative minimum tax. See Form 6251.*	20a		
b Subtract line 20a from line 19. Enter here and on Form 1040, line 14	20b		
21 If line 19 shows a loss—			
a Enter one of the following amounts: (i) If line 7 is zero or a net gain, enter 50% of line 19, (ii) If line 18 is zero or a net gain, enter line 19; or, (iii) If line 7 and line 18 are net losses, enter amount on line 7 added to 50% of the amount on line 18	21a		
b Enter here and enter as a loss on Form 1040, line 14, the smallest of: (i) The amount on line 21a, (ii) $3,000 ($1,500 if married and filing a separate return); or, (iii) Taxable income, as adjusted	21b		
Note: *If the loss on line 21a is more than the loss shown on line 21b, complete Part IV to determine post-1969 capital loss carryover from 1980 to 1981.*	▨	▨	▨

Part IV Computation of Post-1969 Capital Loss Carryovers from 1980 to 1981

(Complete this part if the loss on line 21a is more than the loss shown on line 21b)

Section A.—Short-term Capital Loss Carryover

22 Enter loss shown on line 7; if none, enter zero and skip lines 23 through 27—then go to line 28	22		
23 Enter gain shown on line 18. If that line is blank or shows a loss, enter zero	23		
24 Reduce any loss on line 22 to the extent of any gain on line 23	24		
25 Enter amount shown on line 21b	25		
26 Enter smaller of line 24 or 25	26		
27 Subtract line 26 from line 24	27		
Note: *The amount on line 27 is the part of your short-term capital loss carryover from 1980 to 1981 that is from years beginning after 1969.*	▨	▨	▨

Section B.—Long-term Capital Loss Carryover

28 Subtract line 26 from line 25. (**Note:** *if you skipped lines 23 through 27, enter amount from line 21b*)	28		
29 Enter loss from line 18; if none, enter zero and skip lines 30 through 33	29		
30 Enter gain shown on line 7. If that line is blank or shows a loss, enter zero	30		
31 Reduce any loss on line 29 to the extent of any gain on line 30	31		
32 Multiply amount on line 28 by 2	32		
33 Subtract line 32 from line 31	33		
Note: *The amount on line 33 is the part of your long-term capital loss carryover from 1980 to 1981 that is from years beginning after 1969.*	▨	▨	▨

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SCHEDULE E
(Form 1040)
Department of the Treasury
Internal Revenue Service

Supplemental Income Schedule

(From pensions and annuities, rents and royalties, partnerships, estates and trusts, etc.)
▶ **Attach to Form 1040.** ▶ **See Instructions for Schedule E (Form 1040).**

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Name(s) as shown on Form 1040

Your social security number

Part I **Pension and Annuity Income.** If fully taxable, do not complete this part. Enter amount on Form 1040, line 17. For one pension or annuity not fully taxable, complete this part. If you have more than one pension or annuity that is not fully taxable, attach a separate sheet listing each one with the appropriate data and enter combined total of taxable parts on line 4.

1a Did you and your employer contribute to the pension or annuity? . . . . ☐ Yes ☐ No

b If "Yes," do you expect to get back your contribution within 3 years from the date you receive the first payment? . . . . . . ☐ Yes ☐ No

c If "Yes," show: Your contribution ▶ $.............................., d Contribution received in prior years . . . . . ▶	1d	
2 Amount received this year	2	
3 Amount on line 2 that is not taxable	3	
4 Taxable part (subtract line 3 from line 2). Enter here and include in line 18 below	4	

Part II **Rent and Royalty Income or Loss. If you need more space, attach a separate sheet.**

5a Are any of the expenses listed below for a vacation home or similar dwelling rented to others (see instructions)? . ☐ Yes ☐ No

b If "Yes," did you or a member of your family occupy the vacation home or similar dwelling for more than 14 days during the tax year? ☐ Yes ☐ No

6a Did you elect to claim amortization (under section 191) or depreciation (under section 167(o)) for a rehabilitated certified historic structure (see Instructions)? . . . . ☐ Yes ☐ No

b Amortizable basis (see Instructions) ▶

(a) Property code (describe in Part V)	(b) Total amount of rents	(c) Total amount of royalties	(d) Depreciation (explain in Part VI) or depletion (attach computation)	(e) Other expenses (explain in Part VII)	(f) Net loss	(g) Net income
Property A .						
Property B .						
Property C .						
7 Amounts from Form 4835 . .		▨				
8 Totals . .					( )	

9 Total rent and royalty income or (loss). Combine amounts in columns (f) and (g), line 8. Enter here and include in line 18 below	9	

Part III **Income or Losses from—**

	(a) Name	(b) Employer identification number		(c) Net loss	(d) Net income
Partnerships					
	10 Add amounts in columns (c) and (d) and enter here		10	( )	
	11 Combine amounts in columns (c) and (d), line 10, and enter net income or (loss)		11		
	12 Additional first-year depreciation (see instructions for limitations)		12		( )
	13 Total partnership income or (loss). Combine lines 11 and 12. Enter here and include in line 18 below		13		
Estates or Trusts					
	14 Add amounts in columns (c) and (d) and enter here		14	( )	
	15 Total estate or trust income or (loss). Combine amounts in columns (c) and (d), line 14. Enter here and include in line 18 below		15		
Small Business Corporations					
	16 Add amounts in columns (c) and (d) and enter here		16	( )	
	17 Total small business corporation income or (loss). Combine amounts in columns (c) and (d), line 16. Enter here and include in line 18 below		17		

Part IV

18 **TOTAL** income or (loss). Combine lines 4, 9, 13, 15, and 17. Enter here and on Form 1040, line 18 . ▶	18	

19 Farmers and fishermen: Enter your share of gross farming and fishing income applicable to Parts II and III	19		▨	**E**

Part V Property Reported in Part II

Property Codes	Kind and location of property
A	
B	
C	

Part VI Depreciation Claimed in Part II. If you need more space, use Form 4562.

	(a) Description of property	(b) Date acquired	(c) Cost or other basis	(d) Depreciation allowed or allowable in prior years	(e) Depreciation method	(f) Life or rate	(g) Depreciation for this year
Total additional first-year depreciation (Do not include in items below. See instructions for limitations.) →							
Property A							
Totals (Property A)							
Total additional first-year depreciation (Do not include in items below. See instructions for limitations.) →							
Property B							
Totals (Property B)							
Total additional first-year depreciation (Do not include in items below. See instructions for limitations.) →							
Property C							
Totals (Property C)							

Part VII Expenses Claimed in Part II

Expenses (Description)	Properties A	Properties B	Properties C
Taxes			
Insurance			
Interest			
Commissions			
Other (list) ▶			

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 5: Analyzing the Profit/Loss Statement

A. Review

Ask the group how they got along in filing their income tax returns. Were there any errors on the computer printout? Could they find the information needed for the other tax forms? And, what changes in record keeping are they going to make this year to improve on information for tax purposes.

The highlights of the previous lesson could also be listed on the board as follows:

1. The 1040F should be checked for accuracy with Form 27.
2. A checklist of items to consider should be used prior to completing the tax forms.
3. Highlights of points identified in tax management should be retained for reference during the coming year.
4.
5.

B. Objectives

To analyze the Profit/Loss Statement and make management decisions based on the interpretation of it.

C. Motivation

Show TM-10. This will give you an opportunity to start the discussion by indicating it takes time to evaluate and repair a watch--as it does a farm business. A "quick fix" in both cases may give bad results. Knowing what to look for and asking the correct questions are essential to getting the correct answers.

D. Key Points

1. *How is income measured?*
2. *How do I identify areas that need improvement?*

3. *How can I make a comparison with similar businesses?*

4. *How do I use this information to plan for the future?*

E. Introduction of Information

Start the introduction of information by distributing HO-39 and HO-40 which is a Profit and Loss Statement and Farm Returns and Costs Statement for a sample farm in 1980. After the class has had an opportunity to review the figures briefly, ask them how much profit this farmer realized this year. Several different answers will probably be suggested--jot these on the board to emphasize the range in opinions on results of the same business. Identifying the answer to this question plus looking at ways to identify methods of improvement is the topic for this class.

1. *How is income measured?*

   a. Cash Available--Ask the group to identify the amount of cash sales this farmer had (see 1) and list $183,116 on the board. How much were the cash expenses? Cash operating expenses of $80,833 (see 2) plus purchased feed and purchased livestock of $9,996 and $1,669 (see 3) equals $92,498 which can be listed on the board. The difference equals ($183,116 - $92,498 = $90,618) $90,618. Is that the profit? Would the farmer pay income tax on this amount? What is not included? The group will identify several items so they are ready to move to some different measures of income.

   b. Income Before Depreciation--Start down the operator column and identify items listed that are not cash items:

      (1) Inventory Change (see 4)--This is the change in the Crops and Feed and Livestock inventory between the beginning and ending of the year. [($143,390 + $19,750) - ($114,761 + $17,102) = $1,277 in this example]. 1980 was a year in which many Missouri farmers had adequate cash but very decreased inventories due to low crop yields and depressed livestock prices. Inventory adjustment must be included to offset these conditions.

      (2) Accounts Receivable (see 5)--This example does not have an entry; this is the change during the year of money owed the farmer. As an example, if custom work was done for a neighbor, but not paid, it would appear here.

(3) Farm Products Used (see 6)--In this example, $1,423 worth of farm products were used on the farm ($685--farm raised soybean seed; $738--steer used for home meat consumption).

(4) Farm Produced Inputs (see 7)--In this example, this is the $685 soybean seed.

(5) Prepaid Expense and Accounts Payable (see 8)--These two lines adjust these two items for changes from beginning to end of the year.

(6) Total Operating Expense (see 9)--Total cash operating expense plus farm produced inputs plus or minus prepaid expense and accounts payable. The resulting figure ($79,518) is the operator's total operating expense. After subtracting Total Operating Expense ($79,518) from Gross Farm Returns ($174,151), the resulting figure is Income Before Depreciation ($94,633). This is the operator's accural farm income--the amount available for family living, income tax and social security, debt retirement, and investments including replacement of capital items. Is it adequate? That depends upon the claims against it, For example, if the farmer had family living of $18,000, income tax and social security of $12,000, principal payments of $35,000, and planned to trade combines for a cash difference of $40,000, it would not be adequate. For other situations, it might be more than adequate.

c. Farm Operating Income (see 11)--This includes returns for the operator's labor, management, and interest on equity capital plus any gain or loss on the sale of machinery or buildings. Depreciation (see 10) has been subtracted from the Income Before Depreciation figure to arrive at Farm Operating Income. Depreciation is taken from the depreciation schedule and is not a cash cost. Farmers can survive in the short run without covering it; however, not in the long run. If everything balanced perfectly every year, a farmer that invested an amount equal to this figure in replacement capital items would always have the same quality level of capital items. In other words, depreciation placed into a separate account would always have enough funds to replace equipment, etc. Some studies have indicated though that farmers spend about 150 percent of the depreciation charged each year for capital items, inflation and use of too slow a depreciation method.

d. Net Farm Income--This might be though of as the salary of the operator which can be compared with others' earnings.

e. Operator's Labor and Management Income--interest on equity capital and unpaid family labor is subtracted from Net Farm Income to get this figure. Interest on equity capital is calculated as follows:

average of beginning and ending land investment x 2.8% =

$$\left(\frac{614{,}366 + 614{,}336}{2} \times .028 = \$17{,}201\right)$$

+

average of other investment x 12.0% =

$$\left(\frac{280{,}175 + 299{,}266}{2} \times .12 = \$34{,}764\right)$$

-

interest paid = (9977 - 2,000 = $7,977)

=

interest on equity capital = $43,988 (see 12)

Notes:

(1) 2.8% interest charge on land was used in Illinois in 1980. 4.0% was used in Missouri in 1980. This will vary in different years and reflects the average return on land investment received by landlords the preceding year. It is assumed that landlords expect land appreciation or inflation to provide the other needed returns to make land a profitable investment.

(2) 12.0% interest charge on non-land investments was used in 1980; 11.0% in Missouri. This also varies and is based on the average cost of credit paid by farmers for operating money during the year. Both interest rates are shown on HO-40, Farm Returns and Costs.

(3) In the example, the $2,000 subtracted from interest paid was a negative accounts payable In other words, the farmer owed $2,000 interest at the start of the year and -0- at the end of the year. Total interest of $9,977 was paid during the year, but since $2,000 was a carryover from 1979, $7,977 was the 1980 interest paid in 1980.

(4) With the method of calculation used, it is possible to have a negative figure on the line for interest on equity capital. This would occur with a large debt load on land.

This measure of farm earnings--Operator's Labor and Management Income--reflects the return to the operator's labor and management. It is the amount remaining after a charge is made for the opportunity cost of the investment and unpaid family labor. Over a period of time, this figure needs to be positive or the farmer would be financially better off to sell out and invest the equity in alternative investments.

f. Management Returns (see 13)--After a charge is made for the operator's labor, the remaining figure is the return for the farmer's management services.

These various measures of income are of value in different situations. One principle of management is to measure return to the most scarce resource. As an example, a young farmer with capital as the most limiting resource would be most interested in the "Operator's Labor and Management Income" figure. An older farmer that is slowing down may be most interested in "Income Before Depreciation" or "Net Farm Income." This farmer may be willing to "live off of the interest," while the young farmer has to pay interest.

Sometimes young farmers attempt to operate a farming program similar to one used by their father or neighbor. Even though it may be a very successful program for the father who may be debt free and have $25,000 to $30,000 to live on, it may not work for the younger family because only the interest and principal payments may equal more than the $25,000 to $30,000.

2. *How can I make a comparison with similar businesses?*

Refer to the Farm Returns and Costs (HO-40) for this key point.

a. Compare "My Farm" with "Average Farm." All of the measures of Farm Returns and Costs can be compared. One example may illustrate. On HO-40 the "My Farm" Pesticide Cost Per Tillable Acre" was $3.37 higher than the "average farm." The question is--if this much extra was spent on an input (or all inputs) compared to the average, did the returns go up an equal or greater amount? If not, the input cost should be checked.

One other point should be checked. Was this a "normal year." Crop returns as an example in 1980 in Missouri may have been lower than Crop Total, Power and Equipment Total, etc., expenses. To make a valid comparison, a normal yield x normal price to determine crop returns would more nearly reflect needed management changes.

b. Develop comparative charts and/or trend charts.

(1) Local teachers could develop a comparative chart for each enrollee as used in the example on HO-41. Since farms are grouped for averaging purposes into similar type farms, the "Average Farm" column can be used to indicate the average.

(2) Trend charts of results over a period of years can be developed as on HO-42, HO-43, and HO-44. These charts from Illinois reflect the relationship of number of tillable acres to Operator's Share of Labor and Management Earnings and to Production per $1.00 of Non-Feed Costs.

3. *How do I identify areas that need improvements?*

Point out that the work done on the first two key points in this lesson have probably partially answered the question. There are some additional checks we can perform as follows:

a. Trouble Shooting the Farm Business--Show TM-11 and possibly distribute a copy (HO-45) to each family. This can be followed through and is probably of most value on an individual basis. The example business on HO-39 and HO-40 is High on Management Returns Per Tillable Acre so the only question is, "Is the income adequate for family income goals?" If not, adjust the size of enterprises.

b. Use an individual worksheet approach. For enterprises that may be of special concern, a more detailed analysis can be made using HO-46. As an example, if a farm has a 100 sow farrow to finish operation and if it should contribute a large part of the income to the farm business, it would be a good plan to check that specific enterprise periodically throughout the year. The enterprise could be checked rather easily once a month and certainly many young farmers that are highly leveraged would want to check their main livestock enterprise once each quarter. Insert end of the month figures for end-of-year and beginning of the month figures for beginning-of-year on HO-46 and use other figures for the period being examined on the appropriate line. Most of the information for this on a quarterly or monthly analysis can come from Form 31.

4. *How do I use this information to plan for the future?*

Several techniques are available for this key point; however, this will be limited to two procedures.

a. Distribute copies of "Allocating Limited Resources," HO-48. Use the example on HO-48 cont'd to have the class work through an example. On HO-48 cont'd, a farmer with resources available as indicated would select Farrow-Finish Hogs to maximize an increase in income. A blank copy of HO-48, Allocating Limited Resources, should be distributed for enrollee's use at home. This can also be an important part of this month's on-the-farm instruction.

b. Distribute copies of HO-48, First Things First. Review the high points of this and suggest the families discuss it prior to your visit. Then, on the visit assist them in completing the form after the printout is reviewed. Teachers may want to keep a copy for their files to be of assistance later in the year.

F. Group Discussion

G. Conclusions

Conclusions which may be reached include:

1. Income should be measured to reflect returns to the most scarce resource.
2. Comparisons with similar businesses can be made, but adjustments for normal yields, etc., should be made.
3. The handout on Trouble Shooting a Farm Business provides a step-by-step procedure to identify strengths and weaknesses.
4. Plans for improving the farm business to achieve family goals should be revised annually.
5.
6.

Announcements

Social

On-the-Farm Instruction

Prior to the visit, a comparative chart as on HO-3 could be developed for each farm and this provide a basis to start the discussion. Based on the needs of the family, other worksheets in the lesson can be used; however, all should have HO-48, First Things First, developed.

Materials Needed

Instructor

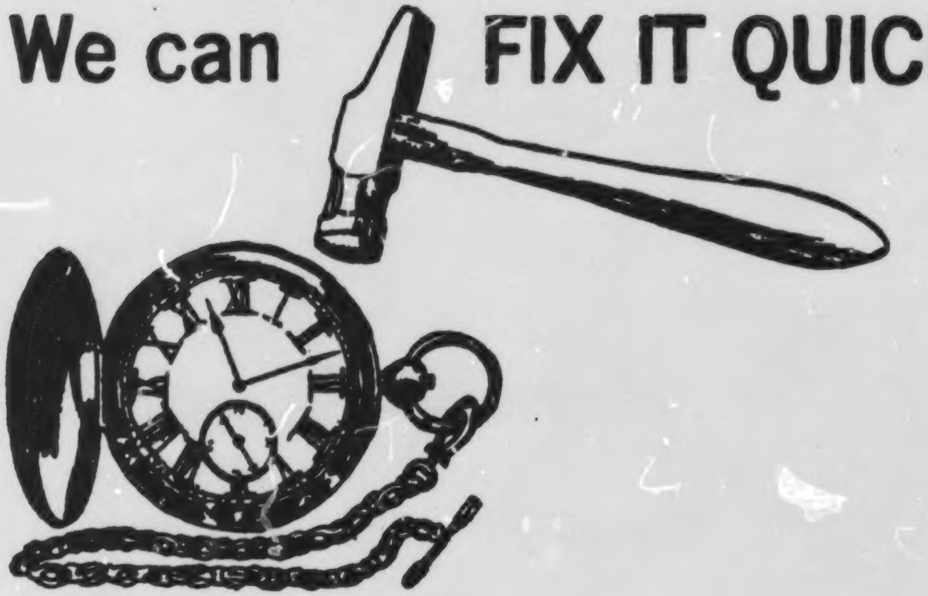
TM-10, Watch Repair
TM-11, Trouble Shooting the Farm Business (combined with HO-45)

Student

HO-39, Profit and Loss Statement for Sample Farm (computer printout)
HO-40, Returns and Costs for Sample Farm (computer printout)
HO-41, Profile of One Missouri Farm Business--1979
HO-42, Southern Illinois Grain Farms--1980
HO-43, Southern Illinois Hog Farms--1980
HO-44, Southern Illinois Dairy Farms--1980
HO-45, Trouble Shooting the Farm Business (combined with TM-11)
HO-46, Calculating Total Returns
HO-47, Allocating Limited Resources
HO-48, First Things First (distribute in duplicate)
Missouri Farm Business Analysis Record Book

Watch Repair

We can FIX IT QUICK



or FIX IT RIGHT

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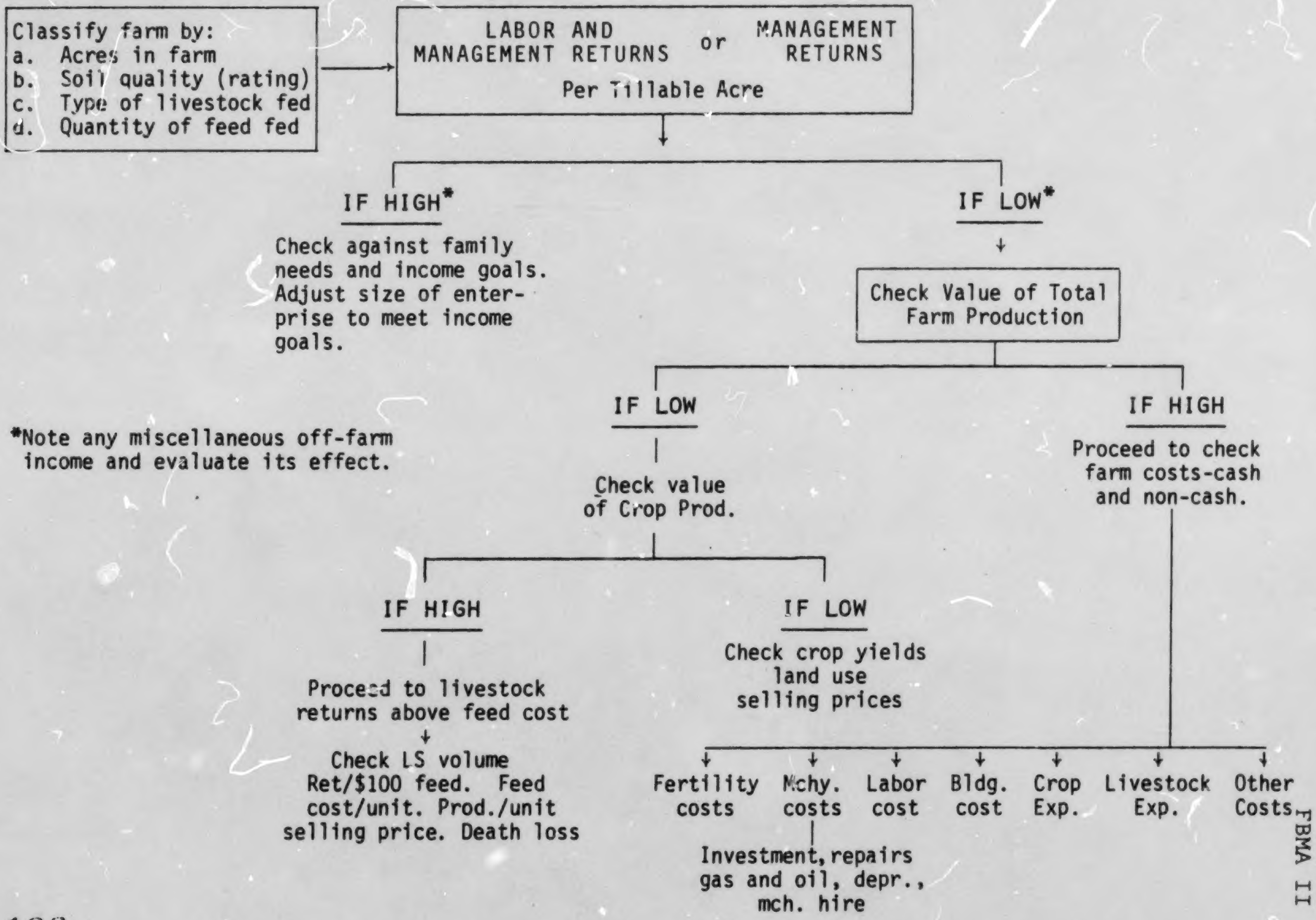
TM-10
FBMA II

TROUBLE SHOOTING THE FARM BUSINESS



Classify farm by:
a. Acres in farm
b. Soil quality (rating)
c. Type of livestock fed
d. Quantity of feed fed

LABOR AND MANAGEMENT RETURNS or MANAGEMENT RETURNS

Per Tillable Acre

IF HIGH*

Check against family needs and income goals. Adjust size of enterprise to meet income goals.

IF LOW*

Check Value of Total Farm Production

IF LOW

Check value of Crop Prod.

IF HIGH

Proceed to livestock returns above feed cost

Check LS volume Ret/$100 feed. Feed cost/unit. Prod./unit selling price. Death loss

IF LOW

Check crop yields
land use
selling prices

IF HIGH

Proceed to check farm costs-cash and non-cash.

- Fertility costs
- Mchy. costs
  - Investment, repairs gas and oil, depr., mch. hire
- Labor cost
- Bldg. cost
- Crop Exp.
- Livestock Exp.
- Other Costs

*Note any miscellaneous off-farm income and evaluate its effect.

FARM Management Analysis Program

1980

FARM BUSINESS ANALYSIS

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HO-39
FBMA II

INCOME AND EXPENSES*	OPERATOR	LANDLORD	TOTAL	AV FARM OPR SHR	AV FARM TOTAL
FARM INCOME					
CROPS, GOVERNMENT PAYMENTS	148692	73000			197023
LIVESTOCK, LIVESTOCK PRODUCTS	33121				17987
OTHER FARM RECEIPTS	1303				9559
TOTAL CASH OPERATING INCOME ①	183116	73000	256116	142732	224569
INVENTORY CHANGE	1277	19145			793
ACCTS. RECEIVABLE (net change)					
FARM PRODUCTS USED ⑥	1423	685			1458
LESS: PURCHASED FEED ③ <	9996				3482
PURCHASED LIVESTOCK	1669				9629
GROSS FARM RETURNS	174151	92830	266981	135165	213703
FARM OPERATING EXPENSES					
FERTILIZER	14696	4833			27876
PESTICIDES	8930	5338			8969
SEED	7998	363			8084
DRYING & STORAGE	10713	169			1714
LIVESTOCK SUPPLIES & SERVICES	762				1155
POWER & EQUIPMENT	14065				20352
INTEREST	9977			12745	12745
HIRED LABOR	5261				3827
BUILDING REPAIR	694				781
INSURANCE	3303				3448
TAXES	2980	9808			12887
CASH RENT & SETTLEMENTS					6796
MISCELLANEOUS	1454				1004
TOTAL CASH OPERATING EXPENSE ②	80833	20511	101344	79307	109638
FARM PRODUCED INPUTS	685	685			749
PREPAID EXPENSE (− if increase)		1196-			791-
ACCOUNTS PAYABLE (+ if increase)	2000-				
TOTAL OPERATING EXPENSE	79518	20000	99518	79161	109596
INCOME BEFORE DEPRECIATION	94633	72830	167463	56004	104107
LESS DEPRECIATION ⑩	30076	41	30117	18992	20059
FARM OPERATING INCOME	64557	72789	137346	37012	89047
GAIN OR LOSS ON MCHY & BLDG SOLD	1325		1325	180	180
NET FARM INCOME	65882	72789	138671	37192	89228
INTEREST ON EQUITY CAPITAL	43988	70155	114143	25824	85435
UNPAID FAMILY LABOR				689	689
OPERATOR(S) LABOR AND MGMT. INCOME	21894	2634	24528	10678	1897-
UNPAID OPERATOR LABOR	12000		12000	13032	13032
MANAGEMENT RETURNS	9894	2634	12528	2353-	15928-
LABOR AND MGMT. INCOME PER OPERATOR	21894			9400	

CROP PRODUCTION ANALYSIS

LAND USE AND CROP PRODUCTION	Acres: My Farm	CROP YIELDS My Farm	CROP YIELDS Av. Farm	LAND USE % My Farm	LAND USE % Av. Farm	GRAIN PRICES Received Oper.	GRAIN PRICES Received Av.	GRAIN PRICES Paid Oper.	GRAIN PRICES Paid Av.
CORN	465	143	87	60.0	51.6	2.41	2.61		3.10
SOYBEANS	256	46	39	33.0	42.9	7.16	6.46		
WHEAT	10	63	71	1.3	1.7	4.16	3.98		
OATS	20	50	70	2.6	.4	1.70	1.81		2.12
OTHER GRAIN			91		.3		2.91		
DC-SOYBEANS			30		.2				
CORN SILAGE			9		.5				
LEGUME GRASSES	24	3	1	3.1	2.6			41.75	39.70
TOTAL	775			100.8	100.2				

*For detailed Cash Flow see Financial Summary Page. MAY 22, 1981

Name: SAMPLE FARM - 1980 Acres: 0650-0800 County: 201
Type: GRAIN Feed-% Fed Range: 1-40 175 rm: 021
Soil Rating: Feed-% Fed Average: 5 HO-40 an: 999
No. In Average: 19 Feed-% Fed My Farm: 11 FBMA II

FARM RETURNS AND COSTS			TOTAL FARM	PER TILLABLE ACRE MY FARM	PER TILLABLE ACRE AV FARM	PER TILLABLE ACRE DIFF
FARM RETURNS:						
CROP RETURNS			259642	335,02	305,07	29,95
LVSTK RETURN ABOVE FEED			6036	7,79	5,15	2,64
CUSTOM WORK			1091	1,41	2,55	1,14-
OTHER FARM RECEIPTS			212	,27	1,65	1,38-
GROSS VALUE OF FARM PRODUCTION ⑭			266981	344,49	314,42	30,07
FARM COSTS:						
SOIL FERTILITY			19429	25,07	40,92	15,85-
PESTICIDES			13172	17,00	13,63	3,37
SEED			9731	12,56	13,66	1,10-
CROP TOTAL			42332	54,62	68,21	13,59-
UTILITIES			1043	1,35	2,75	1,40-
MACHINERY REPAIRS			5042	6,51	10,52	4,01-
MACHINE HIRE			488	,63	1,63	1,00-
FUEL & OIL			7034	9,08	14,79	5,71-
AUTO-FARM SHARE			458	,59	1,23	,64-
MACHINERY DEPRECIATION			27875	35,97	25,39	10,58
POWER & EQUIPMENT TOTAL			41940	54,12	56,32	2,20-
DRYING AND STORAGE			10882	14,04	2,61	11,43
BUILDING REPAIR			694	,90	1,19	,29-
BUILDING DEPRECIATION			2242	2,89	5,09	2,20-
BUILDING TOTAL			13818	17,83	8,89	8,94
	Months	Av. Months				
LABOR UNPAID	12,0	14,3	12000	15,48	21,76	6,28-
LABOR PAID	6,0	4,3	5261	6,79	5,82	,97
LABOR TOTAL	18,0	18,6	17261	22,27	27,58	5,31-
LIVESTOCK SUPPLIES & SERVICES			762	,98	1,75	,77-
INSURANCE			3303	4,26	5,24	,98-
TAXES			12788	16,50	19,58	3,08-
MISCELLANEOUS			1454	1,88	1,53	,35
INTEREST CHG. LAND 8,0 %, OTHER 12,0 %			122120	157,57	149,20	8,37
OTHER COSTS, TOTAL			140427	181,20	177,30	3,90
TOTAL NON-FEED COSTS			255778	330,04	338,29	8,25-
GAIN OR LOSS ON MCHY & BLDG. SOLD			1325	1,71	,27	1,44
MANAGEMENT RETURNS			12528	16,17	23,60-	39,77
PROD. PER $1. NON-FEED COST				1,04	,93	
FARM PRODUCTION PER MAN YEAR				177987	133450	
FARM PROD. PER $1,000 CAPITAL				85	80	
LIVESTOCK VOLUME CWT-PORK				645	92	
VALUE OF FEED FED				28802	9172	

% OF PRODUCTION	DOLLARS	MY %	AV %	LAND INFORMATION	MY	AV
TOTAL OPERATING EXPENSE	99338	37,2	49,8	TOTAL ACRES	788	709
DEPRECIATION	30117	11,2	9,6	TILLABLE ACRES	775	658
FARM OPERATING INCOME	137366	51,4	40,6	TOTAL CROP ACRES	775	659
GROSS VALUE OF PROD	266981	100,0	100,0	SOIL RATING	94	92

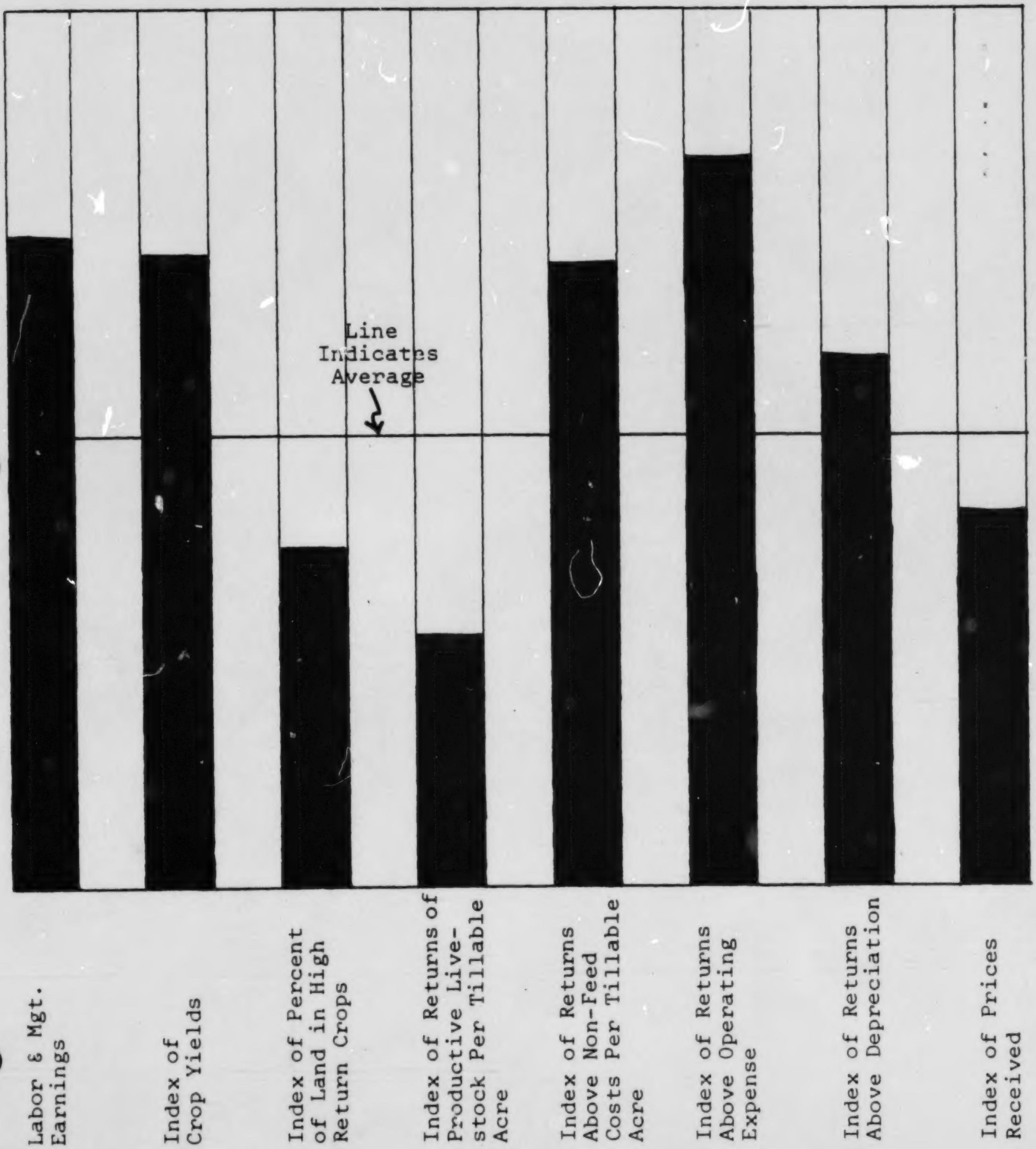
INVESTMENT	OPERATOR Beg.-Yr.	OPERATOR End-Yr.	LANDLORD Beg.-Yr.	LANDLORD End-Yr.	TOTAL FARM Beg. Yr.	TOTAL FARM End-Yr.
CROPS AND FEED	146601	143390	73607	92952	220208	236342
LIVESTOCK	17102	19750			17102	19750
MACHINERY	95064	115080	63	22	95127	115102
BUILDINGS	23248	21006			23248	21006
SOIL FERTILITY						
LAND VALUE (CURRENT)	614336	614336	2139436	2139436	2753772	2753772
TOTAL CAP INVESTMENT	894511	913562	2215306	2234410	3109817	3147972

RATE EARNED ON FARM INVESTMENT % LANDLORD 3,27 AV. 2,49 TOT FARM 4,30 AV. 3,20
INVESTMENT PER MAN MY FARM 2085929 AV. 1663409

Farm Management Ass'ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois, Departments of Agricultural Economics

PROFILE OF ONE MISSOURI FARM BUSINESS--1979

COMPARED TO KENTUCKY-ILLINOIS AVERAGES



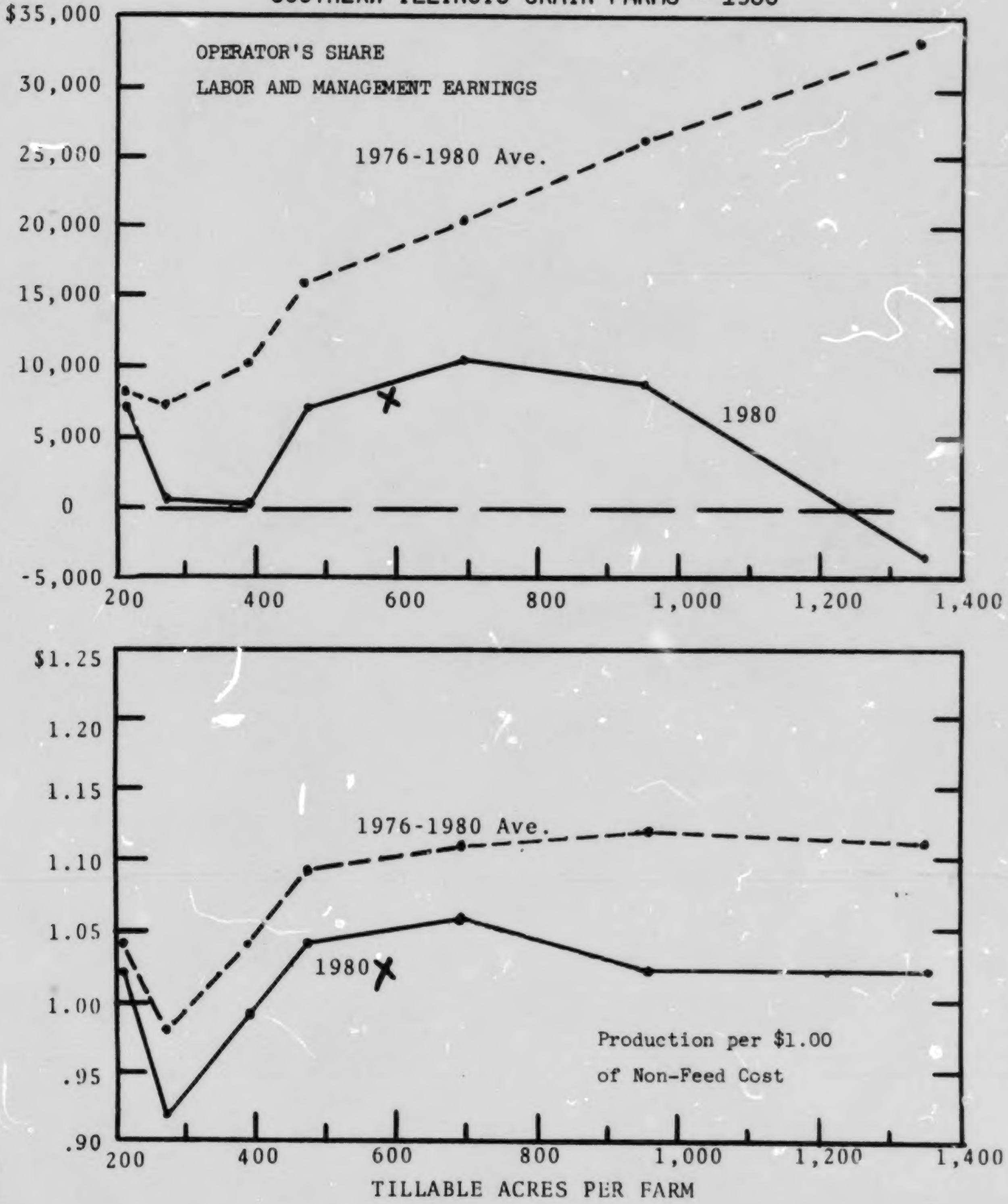
ANALYSIS OF PROFILE

Based on this profile, the following assumptions and recommendations could be made:

1. Earnings are 21 percent above average--reasons identified here might be:
    a. Crop yields are 20 percent above average.
    b. Operating expenses per tillable acre are 18 percent lower than average.
    c. Percent of farm sales going for operating expenses are 28 percent below average.
    d. Percent of farm sales going for depreciation are 8 percent below average.
    e. Index of prices received for products is 8 percent below average.
2. Recommendations:
    a. Continue practices to obtain crop yields.
    b. Determine if more high return crops could be included in the crop plan--corn, soybeans, wheat, silage, and alfalfa are high return crops.
    c. Could a more intensive livestock program be established or can a problem with livestock be determined such as litter size, feed efficiency, etc.?
    d. Ability to control expenses is a main contributing factor to the above average income. As some alternative recommendations are considered, determine their effect on expense control.
    e. Since the index of prices received is below average, look at forward contracting or hedging and seasonal sales practices.

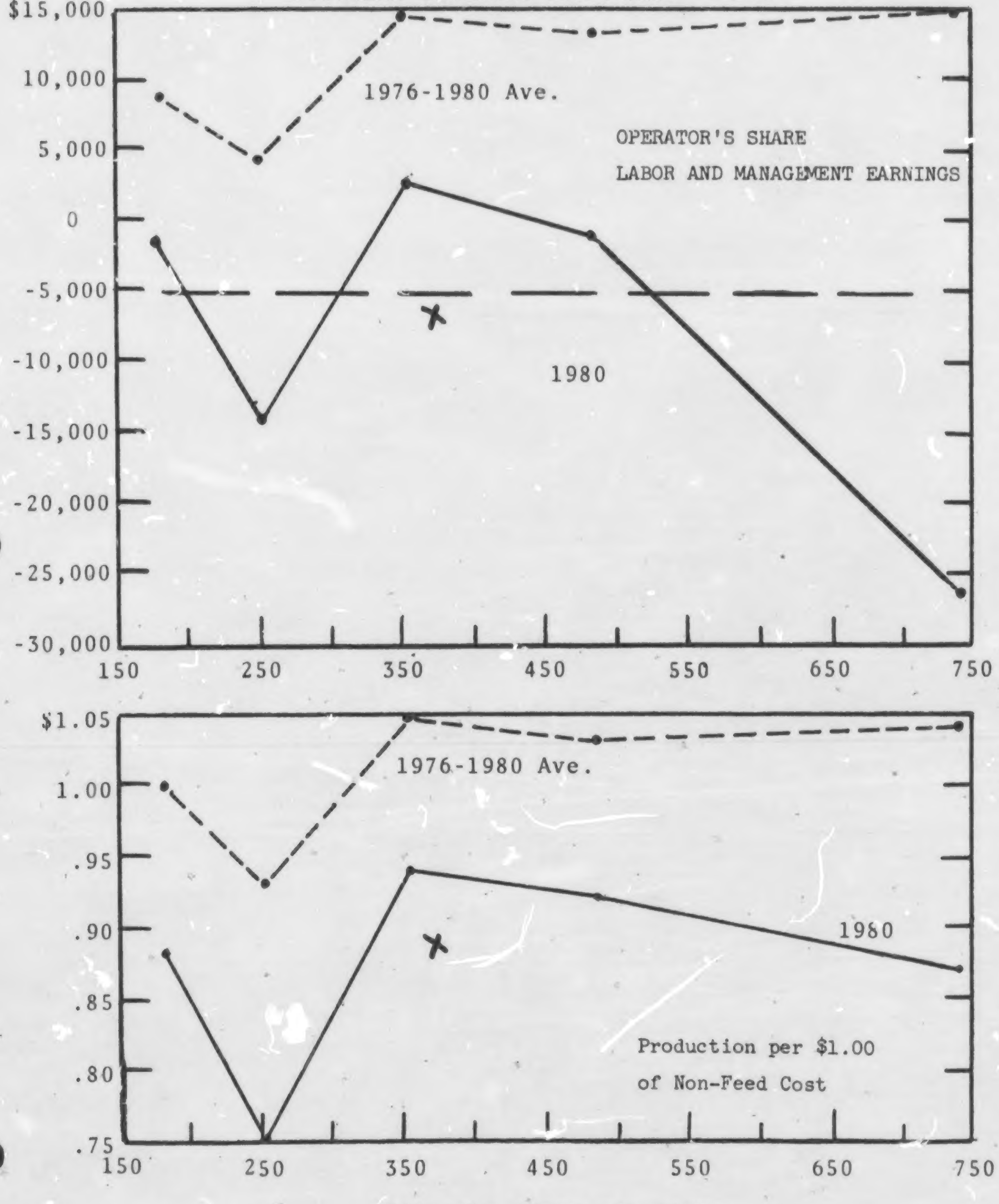
Note: Indexes were determined by dividing the operator's results by the average. As an example, if the operator had an average corn yield of 122 bushels per acre and the total average was 112, the index of corn yields was 109 percent (122 ÷ 112 = 1.089).

SOUTHERN ILLINOIS GRAIN FARMS - 1980



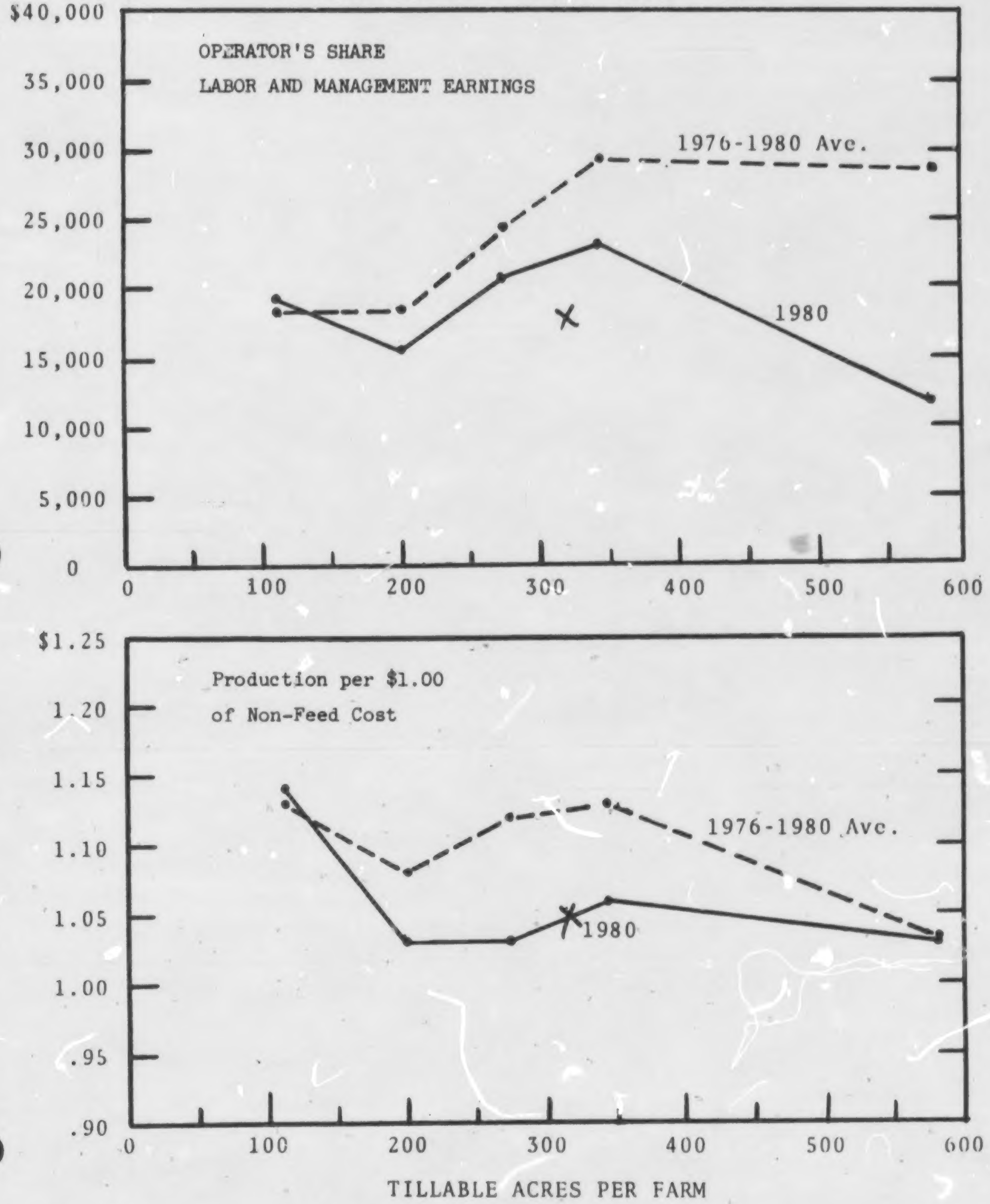
X = average for all farms.

SOUTHERN ILLINOIS HOG FARMS - 1980



X = average for all farms.

SOUTHERN ILLINOIS DAIRY FARMS - 1980



X = 1980 average for all farms.

CALCULATING TOTAL RETURNS[1]

End-of-Year Inventory $_____
Beginning-of-Year Inventory $_____
Inventory Change $_____

Cash Income & Sales $_____
Cash Expense & Purch. $_____
Net Cash Income $_____

Net Cash Income $_______

Inventory Change $_______

Products Consumed $_______

TOTAL RETURNS $_______

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[1] To compute crop returns add to the returns ASC crop payments, plus value of all feed fed except milk fed. Be sure to add milk sold and fed, ASC wool, and eggs to the dairy, sheep, and poultry cash income sales.

(Closing inventory weight + sales weight + consumed weight) - (beginning inventory weight + purchased weight) = pounds produced.

ALLOCATING LIMITED RESOURCES

LIMITING RESOURCE REQUIREMENTS OF SELECTED ENTERPRISES AND A PROCEDURE FOR DETERMINING THE ENTERPRISE THAT WILL ADD THE MOST INCOME TO THE PRESENT ORGANIZATION

Kind of enterprise	Unit	Hay equivalent (tons)	Direct labor (hours)	Average Feed, livestock, and miscellaneous capital	Average building and equipment capital	Per unit income over direct costs
Rent--good land	1 acre	--	3	80	220	88
Rent--fair land	1 acre	--	2.8	90	200	67
Custom contract farm.	1 acre	--	2.5	23	200	42
Custom combine grain	1 acre	--	.2	3	60	18
Custom bale	100 bale	--	.5	8	50	13
Dairy, Gr. A Market	cow	5.5	75	1,380	1,200	1,000
Dairy, Gr. B Market	cow	8.0	90	1,011	750	827
Dairy heifers	head	5.0	30	165	75	325
Beef cow, calf sold	cow	5.0	15	832	50	201
Beef cow, calf fed	cow	5.8	25	1,110	75	256
Growing steer calf	head	1.0	3	253	30	45
Finish yearling steer	head	.5	3	275	30	51
Finish steer calf	head	1.2	5	446	60	101
Ewe and lamb	ewe	.8	5	80	25	35
Feeder lambs	100 head	11.0	70	1,350	300	1,100
Farrow and finish hogs	litter	.2	18	212	250	206
Produce feeder pigs	litter	.2	12	136	200	124
Finish feeder pigs	100 head		140	2,888	312	667
Commercial flock	100 hens		20	214	375	203
Pullet-rearing flock	100 pullets		10	58	50	28
Unused resources, your farm		____	____	$____	____	

	Number of units possible from each limiting resource[a]				Total income fewest number possible units[b]
____ dairy cow, Grade ____ market	____	____	____	____	$____
____________	____	____	____	____	____
____________	____	____	____	____	____
____________	____	____	____	____	____
____________	____	____	____	____	____
____________	____	____	____	____	____

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[a] Amount of unused resources divided by resource requirements of the enterprise.

[b] Lowest number of units in the line times income over direct costs per unit of the livestock from above table.

ALLOCATING LIMITED RESOURCES

LIMITING RESOURCE REQUIREMENTS OF SELECTED ENTERPRISES AND A PROCEDURE FOR DETERMINING THE ENTERPRISE THAT WILL ADD THE MOST INCOME TO THE PRESENT ORGANIZATION

Kind of enterprise	Unit	Hay equivalent (tons)	Direct labor (hours)	Average Feed, livestock, and miscellaneous capital	Average building and equipment capital	Per unit income over direct costs
Rent--good land	1 acre	--	3	80	220	88
Rent--fair land	1 acre	--	2.8	90	200	67
Custom contract farm.	1 acre	--	2.5	23	200	42
Custom combine grain	1 acre	--	.2	3	60	18
Custom bale	100 bale	--	.5	8	50	13
Dairy, Gr. A Market	cow	5.5	75	1,380	1,200	1,000
Dairy, Gr. B Market	cow	8.0	90	1,011	750	827
Dairy heifers	head	5.0	30	165	75	325
Beef cow, calf sold	cow	5.0	15	832	50	201
Beef cow, calf fed	cow	5.8	25	1,110	75	256
Growing steer calf	head	1.0	3	253	30	45
Finish yearling steer	head	.5	3	275	30	51
Finish steer calf	head	1.2	5	446	60	101
Ewe and lamb	ewe	.8	5	80	25	35
Feeder lambs	100 head	11.0	70	1,350	300	1,100
Farrow and finish hogs	litter	.2	18	212	250	206
Produce feeder pigs	litter	.2	12	136	200	124
Finish feeder pigs	100 head		140	2,888	312	667
Commercial flock	100 hens		20	214	375	203
Pullet-rearing flock	100 pullets		10	58	50	28
Unused resources, your farm		0	800	$20,000	20,000	

	Number of units possible from each limiting resource[a]				Total income fewest number possible units[b]
___ dairy cow, Grade ___ market	___	___	___	___	$___
Rent-fair land	___	285	222	100	6700
Custom bale (small)	___	1600	2500	400	5200
Far. & Fin. hogs	___	44	94	80	9064
Prod. feeder pigs	___	67	147	100	8308
Finish feeder pigs	___	5.7	6.9	64	3802

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[a] Amount of unused resources divided by resource requirements of the enterprise.

[b] Lowest number of units in the line times income over direct costs per unit of the livestock from above table.

FIRST THINGS FIRST

1. What are the major strong points of our business?

   1.
   2.
   3.
   4.
   5.
   6.
   7.
   8.
   9.
   10.

2. What are the major weak points in our business which need immediate attention? (List in order of priority.)

   1.
   2.
   3.
   4.
   5.
   6.
   7.
   8.
   9.
   10.

   A. What have we done in the past to strengthen or eliminate them?

   B. What can we do in the future?

3. What other changes in practices, enterprises, or machinery and equipment utilization did our analysis report indicate should be done? Should not be done?

Should	Should not

4. Were there any unusual circumstances which would make last year's analysis an untrue picture of our farm business?

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 6: Analyzing the Financial Statement and Cash Flow

A. Review

The previous lesson, Analyzing the Profit and Loss Statement, should be reviewed. List all conclusions reached at your last meeting. Possible conclusions may have included:

1. Income should be measured to reflect returns to the most scarce resource.
2. Comparisons with similar businesses can be made, but adjustments for normal yields, etc., should be made.
3. Trouble shooting is a step-by-step procedure for identifying strengths and weaknesses of the business.
4. Plans for improving the farm business to achieve family goals should be revised annually.
5.
6.

B. Objective

To understand how the financial statement is set up and how it should be interpreted.

C. Motivation

1. Start by asking the enrollees why having an up-to-date financial statement is necessary? Spend some time discussing this question. Try to include some personal experiences of enrollees in making use of financial statements and how they have been of help in the past. Point out that the financial statement is the most important indicator of the internal health of the farm business. Lenders, in particular, lean heavily on the financial statement along with the cash flow in determining how much additional money a business might be able to borrow safely. The fact of the matter is that most lenders are required to have a copy of the current financial statement of all borrowers on file.

2. Administer the quiz, HO-49, as a motivational experience for enrollees.

D. Key Points

Key points which will be accomplished are as follows:

1. *What does the cash flow statement tell me?*

2. *How are assets and liabilities classified on the financial statement?*

3. *How is the financial statement set up and what does it tell me?*

4. *How do I analyze a financial statement with ratios?*

5. *What do lenders look for in a financial statement?*

E. Introduction of Information

Start the introduction of information by telling the enrollees that the financial summary sheet is divided into two main sections, the cash flow summary and the financial statement. We will look at the cash flow statement first, discussing how it might be used and where the figures come from, and then study the financial statement. For the figures to be meaningful, we need to understand how figures are derived and how to make various cross-checks for accuracy.

1. *What does the cash flow statement tell me?*

   The cash flow statement shows the breakdown of all actual cash flowing into and out of the farm business and the total business including family living. All dollars handled by the operator during the year should be accounted for on the cash flow.

   a. Hand enrollees copies of HO-50, the sample financial summary from a farm analysis. Discuss the cash flow summary side of the form, highlighting things the enrollees should look for as they study their own analyses. The cash flow statement is divided into two columns, one for funds received and spent in the farm business, and one for all funds received and spent by the operator or unit represented. Use the following points and TM-12 to aid in your discussion:

      (1) SOURCE OF FUNDS--The figures for each line item under sources of funds are explained below.

(a) FUNDS AVAILABLE-BEG. OF PERIOD--Cash on hand or in checking account.

(b) CROP SALES--Dollar amount of all crops sold during year.

(c) OTHER FARM RECEIPTS--Includes such items as dividends, resales, custom work, cash rent received, etc.

(d) MCHY AND BLDG SALES--Includes receipts from any machinery and buildings sold during the year.

(e) LIVESTOCK & LIVESTOCK PRODUCTS--Receipts from sale of market livestock and livestock products such as milk and eggs.

(f) LIVESTOCK HELD FOR BREEDING--Receipts from all breeding livestock sold during the year.

(g) MONEY BORROWED THIS YEAR--Includes receipts from all money borrowed during the year, whether short, intermediate, or long term. Does not include accumulation of money borrowed before the year began.

(h) NON-FARM INCOME--Includes all off-farm income; e.g., off-farm wages, stock dividends, income from non-farm business, etc.

(i) NON-TAXABLE RECEIPTS--Any non-taxable receipts including many types of gifts dividends from some investments, etc.

(2) TOTAL SOURCES OF FUNDS--This total should include every dollar that was taken in during the year from all possible sources.

(3) USE OF FUNDS--The figures for each line item under use of funds are explained below.

(a) INTEREST--Includes all interest paid during the year on all money borrowed.

(b) HIRED LABOR--Includes all money paid out for hired labor.

(c) PESTICIDES--Includes all pesticides purchased during the year.

(d) FERTILIZER--Includes all fertilizer purchased during the year.

(e) SEED--Includes all seed purchased during the year.

(f) LIVESTOCK SUPPLIES & SERVICES--Includes all livestock supplies and services purchased during the year.

(g) UTILITIES--Includes all utilities paid for during the year. The "Farm Portion" will include only those utilities charged to the farm and the "All Funds" column should reflect total utilities purchased.

(h) INSURANCE--Includes all insurance paid for during the year.

(i) MISCELLANEOUS--Includes all miscellaneous expenses incurred during the year.

(j) TAXES--Includes property tax paid during the year.

(k) CASH RENT & SETTLEMENTS--Includes cash rent and settlements paid to landlords during the year.

(l) MACHINERY REPAIR--Includes all machinery repairs paid during the year except for those largest repairs which may have been depreciated.

(m) MACHINE HIRE--Includes expenses for custom work and general machine hire paid during the year.

(n) FUEL & OIL--Includes all fuel and oil purchased during the year.

(o) AUTO-FARM SHARE--Includes expenses on the farm share of automobiles paid during the year. Also includes farm truck expenses.

(p) BLDG & FENCE--Includes all expenses incurred during the year on building and fence repairs that were not depreciated.

(q) DRYING & STORAGE--Includes paid expenses on drying and storage of crops during the year.

(CASH OPERATING SUB-TOTAL--This total represents the total of all cash inputs having to do with total farm production. Feed and capital farm purchases as well as non-farm expenses follow.)

(r) FEED PURCHASES--Includes all feed purchased during the year.

(s) LIVESTOCK PURCHASES--Includes all non-breeding and breeding livestock purchased during the year.

(t) MCHY & BLDG PURCHASES--Includes all machinery and building purchases during the year.

(u) LAND IMPROVEMENTS--Includes all land improvements purchased during the year.

(v) PRINCIPAL PAYMENTS--Includes all principal paid on all borrowed funds during the year.

(w) CONTRIBUTIONS--Includes contributions to church, charity, etc., made during the year.

(x) MEDICAL--Includes all medical expenses paid during the year.

(y) LIFE INSURANCE PREMIUMS--Includes all payments made on life insurance premiums during the year.

(z) FAMILY LIVING EXPENDABLE--Includes all expendable family living expenses such as food, clothing, utilities, entertainment, gifts, etc., paid during the year.

(aa) FAMILY LIVING-CAPITAL--Includes all capital family living purchases such as vehicles-family portion, furniture, appliances, etc.

(FAMILY EXPENSE SUB-TOTAL--This figure includes all family living expense, expendable and capital.)

(bb) INCOME, SELF-EMPLOYMENT TAX--This figure includes all state and federal income tax and social security tax paid by the operator during the year. This includes any taxes that were deducted from paychecks by your employer since those taxes were included in non-farm income above.

(cc) INVESTMENTS--This figure includes both farm and non-farm investments such as land, stocks and bonds, real estate, antiques, etc.

(dd) NON-FARM BUSINESS EXPENSES--This figure could include any non-farm business expenses incurred during the year.

(ee) FUNDS AVAILABLE-END OF PERIOD--This includes any money in hand or in checking at the end of the year.

(4) TOTAL USES OF FUNDS--This total represents all dollars that have been paid out by the operator or unit during the year. The total uses of funds in the all funds column should be equal to the total sources of funds in the all funds column above if all figures were included properly.

b. Make check of the cash flow. One of the first things a farmer should do when going over the analysis is to check the cash flow statement to see that all figures have been included. Use the following hints in checking the cash flow.

(1) Check to see that total uses of all funds are equal to total sources of all funds (in the example cash flow, $109,815 = $109,815). If the two figures are not equal, something has been left out. The most common error is not getting non-farm expenses listed but it will pay to trace down the omission to make sure it was not a tax deductible farm expense or taxable receipt.

(2) Check all of the figures against your records to see that they are all included and in the correct spot.

c. Profit and Loss Summary--A short profit and loss summary has been included at the bottom of the form. It is to use for quick reference instead of having to turn back to the profit and loss statement. Discuss the profit and loss summary, pointing out how each of the figures are derived. Use the following points to aid in your discussion.

(1) FARM CASH BALANCE = Total Sources of Funds, Farm Portion - Total Uses of Funds, Farm Portion ($59,206 - $57,648 = $1,558). This means that $1558 more dollars were taken in than were spent on farm items.

(2) INVENTORY CHANGE = Total Increase or Decrease in Crop and Livestock Inventories ($3,661 - $3,004 = $+657 crops and feed; $27,689 - $24,720 = $+2,969 market livestock; $12,022 - $7,461 = $+4,561 breeding livestock; $657 + $2,969 + $4,561 = $8,187).

(3) CAPITAL CHANGE = Total Increase or Decrease in Machinery and Equipment Inventories and Inventory of Buildings and Improvements ($13,184 - $13,441 = $-257 Machinery and Equipment; $12,764 - $12,301 = $463 Buildings and Improvement, $463 - $257 = $206 Capital Change for Year).

(4) FARM PRODUCTS CONSUMED--This figure represents the value of all farm products consumed during the year such as home produced meat, milk, eggs, etc.

(5) CHANGE IN ACCOUNTS REC./ACCOUNTS PAY./PREPAID--This figure represents the difference in accounts receivable, accounts payable, and prepaid expenses between the beginning of the year and the end of the year ($1,200 - $120 = $1,080).

(6) NET FARM INCOME = Farm Cash Balance for Year + Inventory Change for Year + Capital Change for Year + Farm Products Consumed + Change in Accounts Receivable, Payable and Prepaid.

(7) MEMO-CASH BASIS 1040F NET FARM PROFIT--This figure represents the farm profit as calculated on Form 1040F and is the basis for figuring income tax.

(8) SCHEDULE 1040F DEPRECIATION--This figure represents the depreciation on machinery and equipment, buildings and land improvements, and livestock for the year that will be deducted on Form 1040F along with the other regular farm expenses.

d. Discuss any problems the enrollees may have in understanding the cash flow as presented here. Remind them that the cash flow is simply a statement of where cash came from and where it went.

2. *How do I classify my assets and liabilities?*

a. Give enrollees HO-51, Classification of Assets and Liabilities, as a motivator for this section. Let them work through the worksheet. Then show TM-13 and TM-14 as you discuss the classification of assets and liabilities on the financial statement. Use the points below to aid in your discussion.

(1) Classification of Assets--

(a) Current Assets--Current assets consist of cash or other assets which can be converted to cash through the normal operations of the business through the year. This includes things like market livestock, stored crops, hedging account balances, etc.

(b) Intermediate Assets--Intermediate assets consist of those resources or production items whose useful life is between one and ten years. Intermediate assets are generally depreciable and consist of items such as machinery, equipment, and breeding livestock.

(c) Fixed or Long Term Assets--Fixed assets are also called long term assets and are permanent in nature. They consist primarily of land, buildings, and improvements.

(2) Classification of Liabilities--

(a) Current Liabilities--Current liabilities are those debts due within the operating years. These include short term notes, accounts payable, accrued interest, and principal on intermediate and long term notes due within the next 12 months.

(b) Intermediate Term Liabilities--Intermediate term loans are normally for a period of at least 12 months but less than 8-10 years. Examples include notes for machinery and equipment, breeding livestock, etc.

(c) Long Term Liabilities--Long term liabilities consist of mortgages and land contracts on real estate, less the principal balance due within the next 12 months.

3. *How is the financial statement set up and what does it tell me?*

The financial statement is completed in two ways; on a modified cost basis and on a fair market value basis. We will first compare the two methods, then look at where the figures come from and how to make checks for accuracy.

a. Have enrollees turn their attention to their sample financial statement, HO-50 Discuss modified cost basis as compared to fair market value using the points below in your discussion.

(1) Modified Cost Basis--For the modified cost basis statement, depreciable items are valued at their record book or depreciated value. This includes most intermediate term assets and some long term assets. Items like real estate and personal residence may be valued at either book or real value. In the example, book value was used for

land in the modified cost basis. The values of current assets should always be the same under modified cost or fair market value because of their short term nature. In short, the modified cost values should always agree with the depreciated values of items on the depreciation schedule.

(2) Fair Market Value--For the fair market value statement, items are valued at their current or true value regardless of book value. Current assets will be the same as for modified cost, but intermediate and long term assets should generally be different. Note the differences on the sample schedule.

(3) Comparisons--The modified-cost basis statement is important as far as record keeping is concerned. It is needed to check accounting procedures, etc. However, the fair market value statement is probably most useful to farmers since it gives an up-to-date or more true picture of the business. Since the operator sets the values to be used on the fair market value statement, it is critical that good judgment is used. Otherwise a lender might not put much faith in the statement anyway and it would have little value.

b. Discuss with the enrollees each line item on the financial statement and where the figure comes from. Use the following points to aid in your discussion.

(1) CURRENT ASSETS

(a) CASH ON HAND OR IN CHECKING--Includes any loose cash available and cash in checking account.

(b) CASH IN SAVINGS & TIME CD'S--Includes any cash in savings, passbook accounts, etc., that can be recovered at any time.

(c) HEDGING ACCOUNT BALANCE--Includes balance in all hedging accounts at the end of the year.

(d) MARKETABLE STOCKS & BONDS--Includes stocks and bonds that can be converted to cash at any time.

(e) NOTES AND ACCOUNTS RECEIVABLE--Any short term notes and accounts receivable.

(f) CROPS & FEED--Includes all stored crops and feed on hand.

(g) MARKET LIVESTOCK--Includes all market livestock.

(h) PREPAID EXPENSES--Includes all prepaid expenses at the beginning and end of year. An example might be investment in growing wheat. You have probably paid for the seed and fertilizer before the year is over so they would be considered prepaid expenses.

(i) OTHER, NON-FARM--Any other non-farm assets that can be quickly converted to cash.

(2) INTERMEDIATE ASSETS

(a) NOTES & ACCOUNTS RECEIVABLE--Includes notes and accounts receivable that are due in 1-10 years. An example might be a loan made to a child or relative.

(b) MACHINERY, EQUIPMENT, & AUTO F/S--Includes book value of machinery under modified cost and real or current value under fair market value.

(c) BREEDING LIVESTOCK--Includes all breeding livestock values at book value under modified cost and real or current value under fair market value.

(d) CASH VALUE OF LIFE INSURANCE--Includes cash value of any life insurance owned--not face value.

(e) SECURITIES NOT READILY MARKETABLE--Includes any securities owned that cannot be converted to cash at will, but are tied up in some way. An example might be PCA or FLB stock.

(f) HOME FURN., PERS. ITEMS--Includes value of all items like furniture, appliances, and personal items of value; e.g., guns, sporting equipment, etc.

(g) OTHER--Includes any other intermediate assets.

(3) FIXED ASSETS

(a) FARM REAL ESTATE-BARE LAND--Includes the value of all bare land owned. Does not include buildings.

(b) BUILDINGS & IMPROVEMENTS--Includes the book value of buildings and improvements under modified cost and the real or current value under fair market value.

(c) PERSONAL RESIDENCE--Includes the value of the operator's dwelling.

(d) OTHER NON-FARM REAL ESTATE--Includes the value of any non-farm real estate; e.g., a cabin at the lake, a non-farm business, etc.

(e) CONTRACTS & NOTES RECEIVABLE--Includes any long term contracts and note receivable. An example might be a farm you sold to another individual and you loaned the money on it for 20 years.

(f) OTHER--Includes any other fixed or long term assets.

(4) CURRENT LIABILITIES

(a) OPERATING, SHORT TERM NOTES, < 1 yr.--Includes any short term notes due within a year.

(b) ACCOUNTS PAYABLE W/MERCH. & DEALERS--Includes any accounts payable such as feed bills, machinery repair bills, etc.

(c) ACCRUED TAXES-INCOME, SS., R.E.--Includes any accrued taxes on income, social security, property, etc. An example might be that as a farmer, at the end of the year, you may know that you will owe at least $3500 in income and social security tax. These would be considered accrued taxes.

(d) ACCRUED INTEREST--This includes interest that has accrued on loans that has not yet been paid.

(e) PRINCIPAL DUE WITHIN 12 MONTHS:
INTERMEDIATE TERM NOTES
LONG TERM NOTES--Includes all principal that will be due within the year on intermediate and long term loans.

(f) OTHER--Includes any other current liabilities.

(5) INTERMEDIATE LIABILITIES

(a) DEFERRED PORTION INTERMED. NOTES--Includes the full amount of intermediate term notes that will be due in future years.

(b) LIFE INSURANCE POLICY LOANS--Includes amount of any loans made on the basis of life insurance policies.

(c) OTHER--Includes any other intermediate liabilities.

(6) LONG TERM LIABILITIES

(a) DEFERRED PORTION R.E. MORTGAGES--Includes the full amount of real estate loans that will be due in future years.

(b) DEFERRED PORTION LAND CONTRACTS--Includes the full amount of a land contract that will be due in future years.

(c) OTHER--Includes any other long term liabilities.

(7) CONTINGENT TAX LIABILITY--The contingent tax liability is an estimate of the amount of tax that would be owed if the business were liquidated.

(8) NET WORTH--The net worth is found by subtracting total liabilities from total assets.

(9) CHANGE IN NET WORTH--The change in net worth is a comparison of net worth at the beginning of the year and the end of the year. It is calculated by subtracting the net worth at the beginning of the year from the net worth at the end of the year.

c. Discuss with the enrollees the things that should be checked when evaluating their financial statements. Using the HOs and TM- 12 , use the following points in checking the financial statement.

(1) MONEY BORROWED THIS YEAR - PRINCIPAL PAID THIS YEAR = change in total liabilities for the year--($21,308 borrowed this year - $9000 principal paid this year = $12,308 more borrowed at the end of the year than at the beginning. $47,128 total liabilities at the end of the year - $35,000 total liabilities at the beginning of the year = $12,128 more liabilities at the end than the beginning. $12,128 is approximately equal to $12,308.

(2) CHANGE IN NET WORTH = NET FARM INCOME + NON-FARM WAGES + OTHER NET NON-FARM INCOME - FAMILY LIVING, INCOME AND SOCIAL SECURITY TAX--$11,031 Net Farm Income + $28,807 Non-Farm Wages + $0 Net Non-Farm Income - $26,487 Family Living, Income and Social Security Tax = $13,351 Change in Net Worth. $13,351 is approximately equal to $13,345.

(3) New investments shown on the cash flow side must be reflected on the financial statement. In the example, we see that investments of $15,640 were made during the year. By looking over the financial statement, we would assume that the investment was made in land since the modified cost basis of bare land increased $17,500 during the year.

(4) Check for any other inequities between the cash flow for the year and changes in assets and liabilities for the year.

4. *How do I analyze a financial statement with ratios?*

Give enrollees HO-52, Ratio Analysis. Read through the handout with them and discuss each ratio. As you read and discuss the ratios, figure each ratio on the sample financial statement and discuss the implications. Listed below are the ratios from the sample and points to help in discussing them. We will use the fair market value statement to figure ratios since it is the truest picture of the business.

a. Current Ratio = Current Assets ÷ Current Liabilities ($32,750 ÷ $27,500 = 1.19:1)--This current ratio is reflecting too much short term money borrowed in relation to current assets and, if possible, the farmer may want to shift some of this current debt to intermediate debt.

b. Intermediate Ratio = Intermediate Assets ÷ Intermediate Liabilities ($39,500 ÷ $19,622 = 2.9:1)--This intermediate ratio is an acceptable one being close to the recommended 3:1 level. However, in order to be able to shift some current debt to intermediate, some intermediate debt needs to be shifted to long term, if possible.

c. Net Capital Ratio = Total Assets ÷ Total Liabilities ($185,450 ÷ $47,122 = 3.9:1)--This net capital ratio reflects a safe business at this point. If appears that debt could be shifted to long term without any problems, and in fact, this farmer should consider looking toward an additional long term investment.

d. Debt:Net Worth Ratio = Total Liabilities ÷ Net Worth ($47,122 ÷ $138,328 = .34:1)--This ratio suggests that this business is not very highly leveraged and might profit in using additional borrowed money to expand the business.

5. *What do lenders look for in a financial statement?*

Discuss the four points on TM-15 as you study this key point. Below are some notes to use in your discussion.

a. FINANCIAL POSITION--By looking at your net worth, a lender gets a quick handle on your financial position. The net worth is probably the most important figure on the financial statement.

b. PROGRESS--A lender can measure the progress of the borrower by observing the change in net worth each year and would not be particularly concerned if net worth did not increase in a particular year; but over time, a profitable business generally shows change.

c. SIZE & TYPE OF BUSINESS--The lender gets a picture of the size and type of business by seeing total assets and liabilities and observing where most of the assets are located. In other words, are they fixed or inactive assets, or are they working assets (machinery, livestock, etc.).

d. RATIOS--The lender will definitely look at the financial ratios and help a borrower stay in a safe position and will also use the ratios in helping the borrower keep current, intermediate, and long term debt in correct relationship with each other.

F. Group Discussion

Sufficient time should be allotted for enrollees to discuss and ask any questions about the financial statement and cash flow.

G. Conclusions

Conclusions which may be reached include:

1. The financial statement is like a "snapshot" of the total farm business.

2. The cash flow statement reflects all dollars coming into and leaving the total business.

3. The total amount of money coming in should be equal to the total amount of money going out.

4. Financial ratios are a help to lenders in analyzing the farm business and servicing their borrowers.

5.

6.

Announcements

Next meeting, we will be working on analyzing livestock enterprises.

Social

On-the-Farm Instruction

When visiting enrollees following this lesson, sit down with them and help them analyze their financial statements. Work through the financial ratios with them and discuss the implications and what they may want to do differently. Also check over the cash flow and make checks. If there are any problems, discuss how they might be corrected in the future.

Materials Needed

Instructor

TM-12, Financial Statement of Sample Farm (computer printout) (combined with HO-50)
TM-13, Classification of Assets
TM-14, Classification of Liabilities
TM-15, What Does a Lender See in a Financial Statement?

Student

HO-49, Quiz--Financial Statements
HO-50, Financial Statement of Sample Farm (computer printout) (combined with TM-12)
HO-51, Worksheet--Classification of Assets and Liabilities
HO-52, Financial Ratio Analysis
Missouri Farm Business Analysis Record Book

CLASSIFICATION OF ASSETS

CURRENT--

CASH OR OTHER ASSETS THAT CAN BE CONVERTED TO CASH THROUGH THE NORMAL OPERATION OF THE BUSINESS THROUGHOUT THE YEAR.

INTERMEDIATE--

RESOURCES OR PRODUCTION ITEMS WHOSE USEFUL LIFE IS BETWEEN ONE AND TEN YEARS.

FIXED OR LONG TERM--

ASSETS THAT ARE PERMANENT IN NATURE.

CLASSIFICATION OF LIABILITIES

CURRENT--

DEBTS DUE WITHIN THE OPERATING YEAR.

INTERMEDIATE--

DEBTS DUE FROM ONE TO TEN YEARS.

LONG TERM LIABILITIES--

MORTGAGES AND LAND CONTRACTS SET UP FOR MORE THAN TEN YEARS.

WHAT DOES A LENDER SEE IN A FINANCIAL STATEMENT?

FINANCIAL POSITION

PROGRESS

SIZE & TYPE OF BUSINESS

RATIOS

QUIZ--FINANCIAL STATEMENTS

____ 1. A net capital (total assets ÷ total liabilities) ratio of ______ is considered the minimum by most lenders.

a. 3:1
b. 2:1
c. 1:1
d. 4:1

____ 2. This means--other things being all right--that if you had total assets of $150,000; you could have $______ borrowed and still be sound financially.

____ 3. A narrow net capital ratio will often cause high interest payment in relation to total income. True or False

____ 4. A current ratio (current assets ÷ current liabilities) of 1:1 is acceptable. True or False

____ 5. A farmer is considered solvent if:

a. there are sufficient current assets to cover current debts.
b. there is sufficient equity to cover current debts.
c. there are sufficient assets to cover all debts.
d. all debts can be paid with all equity.

____ 6. Which of the following is not the purpose of preparing a financial statement:

a. show the relative amounts of debt and equity.
b. use in computing financial ratios.
c. to provide for computation of profit or loss of the business this year.
d. measure your progress this year versus last year and previous years.

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FINANCIA

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F 215
TM-12
HO-50
FBMA II

CASH FLOW

SOURCE OF FUNDS	CASH FLOW FARM PORTION	ALL FUNDS
FUNDS AVAILABLE - BEG. OF PERIOD		500
CROP SALES	4757	4757
OTHER FARM RECEIPTS	5704	5704
MCHY & BLDG SALES		
LIVESTOCK & LVSTK PRODUCTS	48745	48745
LIVESTOCK HELD FOR BREEDING		
MONEY BORROWED THIS YEAR		21308
NON-FARM INCOME		28807
NON-TAXABLE RECEIPTS		
TOTAL SOURCES OF FUNDS	59206	109815
USE OF FUNDS:		
INTEREST	2434	2434
HIRED LABOR	130	130
PESTICIDES	17	17
FERTILIZER	3756	3756
SEED	610	610
LIVESTOCK SUPPLIES & SERVICES	919	919
UTILITIES	629	629
INSURANCE	115	115
MISCELLANEOUS	1318	1318
TAXES	627	627
CASH RENT & SETTLEMENTS	3981	3981
MACHINERY REPAIR	1786	1786
MACHINE HIRE	6120	6120
FUEL & OIL	1410	1410
AUTO-FARM SHARE	186	186
BLDG & FENCE	1226	1226
DRYING & STORAGE		
CASH OPERATING SUB-TOTAL	25264	25264
FEED PURCHASES	23893	23893
LIVESTOCK PURCHASES	3986	3986
MCHY & BLDG PURCHASES	4505	4505
LAND IMPROVEMENTS		
PRINCIPAL PAYMENTS		9000
CONTRIBUTIONS		1040
MEDICAL		
LIFE INSURANCE PREMIUMS		243
FAMILY LIVING - EXPENDABLE		16424
FAMILY LIVING - CAPITAL		3500
FAMILY EXPENSE SUB-TOTAL		20167
INCOME, SELF-EMPLOYMENT TAX		6320
INVESTMENTS		15640
NON-FARM BUSINESS EXPENSES		
FUNDS AVAILABLE - END OF PERIOD		
TOTAL USES OF FUNDS:	57648	109815

PROFIT & LOSS SUMMARY

FARM CASH BALANCE	1558
INVENTORY CHANGE	8187
CAPITAL CHANGE	206
FARM PRODUCTS CONSUMED	
CHANGE IN ACCTS/REC. ACCT PAY, PREPAID	1080
NET FARM INCOME	11031

MEMO - CASH BASIS 1040F NET FARM PROFIT
SCHEDULE 1040F DEPRECIATION

AL SUMMARY

PARED WITHOUT AUDIT
ON PROVIDED IN RECORD

Name:

County:

FINANCIAL STATEMENT

	MODIFIED COST BASIS		FAIR MARKET VALUE	
CURRENT ASSETS	BEG. OF YEAR	END OF YEAR	BEG. OF YEAR	END OF YEAR
CASH ON HAND OR IN CHECKING	500		500	
CASH IN SAVINGS & TIME CD'S	200	200	200	200
HEDGING ACCOUNT BALANCE				
MARKETABLE STOCKS & BONDS				
NOTES & ACCOUNTS RECEIVABLE				
CROPS & FEED	3004	3661	3004	3661
MARKET LIVESTOCK	24720	27689	24720	27689
PREPAID EXPENSES	120	1200	120	1200
OTHER, NON FARM				
TOTAL CURRENT ASSETS	28544	32750	28544	32750
INTERMEDIATE ASSETS				
NOTES & ACCOUNTS RECEIVABLE				
MACHINERY, EQUIPMENT, & AUTO F/S	13441	13184	15640	16290
BREEDING LIVESTOCK	7461	12022	14000	16800
CASH VALUE OF LIFE INSURANCE				
SECURITIES NOT READILY MARKETABLE	4500		4500	
HOME FURN., PERS. ITEMS	3000	6500	3000	6500
OTHER,				
TOTAL INTERMEDIATE ASSETS	28402	31706	37140	39500
FIXED ASSETS				
FARM REAL ESTATE-BARE LAND*	27450	44950	59400	82200
BUILDINGS & IMPROVEMENTS	12301	12764	10000	13000
PERSONAL RESIDENCE	18000	18000	18000	18000
OTHER NON-FARM REAL ESTATE				
CONTRACTS & NOTES RECEIVABLE				
OTHER				
*MODIFIED = 1979 BASE LAND VALUE, FMV ADJ. BY INDEX.				
TOTAL FIXED ASSETS	57751	75714	87400	113200
TOTAL ASSETS	114697	140170	153084	185450
CURRENT LIABILITIES				
OPERATING, SHORT TERM NOTES, < 1 yr.	11500	27500	11500	27500
ACCOUNTS PAYABLE W/MERCH. & DEALERS				
ACCRUED TAXES - INCOME, SS., R.E.				
ACCRUED INTEREST				
PRINCIPAL DUE WITHIN 12 MONTHS:				
INTERMEDIATE TERM NOTES				
LONG TERM NOTES				
OTHER				
TOTAL CURRENT LIABILITIES	11500	27500	11500	27500
INTERMEDIATE LIABILITIES				
DEFERRED PORTION INTERMED. NOTES	23500	19628	23500	1962[illegible]
LIFE INSURANCE POLICY LOANS				
OTHER				
TOTAL INTERMEDIATE LIABILITIES	23500	19628	23500	19622
LONG TERM LIABILITIES				
DEFERRED PORTION R.E. MORTGAGES				
DEFERRED PORTION LAND CONTRACTS				
OTHER				
TOTAL LONG TERM LIABILITIES				
CONTINGENT TAX LIABILITY				
TOTAL LIABILITIES	35000	47128	35000	47122
NET WORTH	79697	93042	118084	138328
CHANGE IN NET WORTH	230	13345		20244

Farm Management Ass'ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois. Departments of Agricultural Economics

WORKSHEET--CLASSIFICATION OF ASSETS AND LIABILITIES

Match the assets and liabilities on the left with the appropriate classification on the right. (Letters may be used more than once.)

____ 392 acres of land

____ farrowing house

____ 6 month note

____ 129 fat hogs

____ $692 feed bill

____ combine

____ 5 year note on combine

____ 20 shares of common stock

____ $600 in passbook savings

____ 32 beef cows

____ 30 year loan on farm

____ $290 in checking account

____ $6500 due this year on farm loan

____ accrued income tax not paid

____ refrigerator

____ 3200 bushels of stored beans

____ $1500 excess in hedging account

A. Current Assets

B. Intermediate Assets

C. Fixed Assets

D. Current Liabilities

E. Intermediate Liabilities

F. Long Term Liabilities

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HO-51 (cont'd)
FBMA II

KEY TO WORKSHEET ON CLASSIFICATION OF ASSETS AND LIABILITIES

List Key

Assets

Current Assets

- 6 month note
- 129 fat hogs
- 20 shares of common stock
- $600 in passbook savings
- $290 in checking account
- 3200 bushels of stored beans
- $1500 excess in hedging account

Intermediate Assets

- combine
- 32 beef cows
- refrigerator

Fixed Assets

- 392 acres of land
- farrowing house

Liabilities

Current Liabilities

- $692 feed bill
- $6500 due this year on farm loan
- accrued income tax not paid

Intermediate Liabilities

- 5 year note on combine

Long Term Liabilities

- 30 year loan on farm

Letter Key

C
C
A
A
D
B
E
A
A
B
F
A
D
D
B
A
A

FINANCIAL RATIO ANALYSIS

Current ratio--current assets divided by current liabilities. This is a measure of "liquidity" and indicates whether or not a business can pay its current debts. If the ratio is less than 1 to 1 (current liabilities exceed current assets), working or fixed assets may have to be sold to pay current debts. A ratio between 1 to 1 and 2 to 1 may mean working capital and family living cash will be seriously limited. A current ratio of 3 to 1 indicates good current strength. A ratio higher than this indicates the business is not expanding to its potential rate.

Poor current ratios are often the result of too much short-term financing--so, the solution may be to shift some current liabilities to long-term liabilities, as an example.

Intermediate ratio--intermediate assets divided by intermediate liabilities. This is often called "working ratio" since it involves assets as cows, tractors, etc., which are working for us. This ratio should also be close to 3 to 1.

Net capital ratio--is total assets divided by total liabilities. This is a measure of "solvency." Most lenders prefer this ratio to be 2:1 or better as a general rule. It means the farmer has one dollar invested for each dollar the lender has loaned in the business. Some exceptions to the previous statement are: (1) a younger person can stand narrower ratios; (2) a person with outside fixed income can stand narrow ratios; and (3) a "small" debt can be safer on a narrow ratio.

Some reasons this ratio is so important to a lender are: (1) if it is too narrow, problems come up due to higher interest cost in relation to percent return on investment, (2) debt servicing can become a problem, etc. How can an unsatisfactory ratio be corrected? Quite often it involves selling some assets and paying part of the debts. Which assets to sell requires much planning in order to maintain the correct profit picture. Often this can be done to increase net profit as well as correct unsatisfactory ratios.

Debt:net worth ratio--total liabilities ÷ net worth. This is often called a measure of "leverage." It is a measure of the dollars invested by a business compared to those borrowed. "Leverage" means to use someone else's money to make money. As an example, if a 12 percent return can be earned on total farm capital and interest cost of borrowed capital is 8 percent; then, leverage is working to the advantage of the farmer. However, it should be recognized that increasing amounts of leverage increases the amount of risk in case the return on total farm capital drops below interest cost as might happen in event of drought, lower market prices, higher death loss than expected, etc. A ratio of 1:1 here would be the same as a "Net Capital Ratio" of 2:1. Lenders generally prefer a 1:1 debt:net worth ratio or less.

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 7: Analyzing Livestock Enterprises

A. Review

The previous lesson, Analyzing Financial Statements and Cash Flow, should be reviewed. List all conclusions you reached at your last meeting. Possible conclusions may have included:

1. The financial statement is like a "snapshot" of the total farm business.
2. The cash flow statement reflects all dollars coming into and leaving the total business.
3. The total amount of money coming in should be equal to the total amount of money going out.
4. Financial ratios are a help to lenders in analyzing the farm business and servicing their borrowers.
5.
6.

B. Objective

To be able to analyze the livestock enterprise by evaluating efficiency factors.

C. Motivation

Ask the enrollees which efficiency factors or costs in livestock enterprises are most closely related. Take one enterprise in particular, eg., cattle, and write down the enrollees' comments on the board. Discuss the answers one at a time and come to some type of agreement. Some enrollees may respond that weaning weight of calves is the best indicator of profit, while others may think herd calving or weaning percentage is more important. The important thing here is to try to get the group thinking in terms of what factors they need to begin improving upon in order to make their livestock enterprises more profitable.

D. Key Points

1. *What are the profitability factors that are common to all livestock enterprises?*

2. *How should I analyze each of my livestock enterprises?*

3. *What can I do to make my livestock enterprises more profitable?*

E. Introduction of Information

Start the introduction of information by telling the enrollees that the downfall of many farmers has been that they have concentrated too much on one factor in livestock production and have lost sight of the total picture. Another problem has been that farmers have often continued to produce when an enterprise has been consistently losing money. Point out that it is not advisable or even possible to make definitive judgment based on only one year's analysis; instead, decisions should be made on the basis of several years of analysis.

1. *What are the profitability factors that are common to all livestock enterprises?*

   Give enrollees HO-53 or have them refer to their own livestock analysis printouts from their previous analyses. While showing TM-16, discuss the profitability factors that are common to all livestock enterprises. Show how each is calculated so the enrollees understand where they come from and what they mean for each enterprise. It is likely that for your group some enterprises will be more common than others, and more time should be spent on those enterprises.

   a. Below is a short discussion of each of the Livestock Profitability Factors listed on TM-16.

      (1) Total pounds produced = lbs. on closing inventory + lbs. sold + death loss - lbs. on beginning inventory - lbs. purchased. This factor mainly gives an indication of the size and scope of the enterprise.

      (2) Total returns = (cash income + capital sales + end of the year inventory + value of products consumed) - (cash expenses + capital purchases + beginning of the year inventory).

      (3) Value of feed fed = value of raised feed fed + value of purchased feed fed.

(4) Returns per $100 feed fed = total returns ÷ value of feed fed x 100. Since feed cost is a major cost in all livestock enterprises, this figure is a particularly important one to evaluate and compare with others.

(5) Returns above feed/cow or litter = total returns - value of feed fed ÷ no. of cows or litters (a good factor to use in comparing with other operations).

(6) Death loss:percent of lbs. produced = pounds of death loss ÷ total pounds produced.

(7) Feed cost/100 lbs. produced = value of feed fed ÷ total lbs. produced x 100.

(8) Price received for 100 lbs. sold = total receipts ÷ total lbs. sold x 100.

(9) Total returns per 100 lbs. prod. = total returns ÷ total pounds produced x 100.

(10) Pounds of feed per unit produced = lbs. of grain + lbs. of protein and minerals + lbs. of hay or silage + amount of any other feeds fed ÷ units (lbs. or cwt. produced).

b. Point out to the enrollees that even though all of the factors previously discussed are common to all livestock enterprises, each enterprise is different and has its own individual characteristics. Types of feed fed and products sold, for example, vary with each enterprise. Discuss some of the differences in the various livestock analyses on the sample printouts. Give enrollees a copy of HO-54 and explain to them that the numbers at the top of the "MY FARM" column on the Livestock Analysis Printout represents the specific type of enterprise as shown on this handout.

2. *How should I analyze each of my livestock enterprises?*

Each enterprise should be analyzed by first comparing "my farm" with the average, high return, and low return farms on the livestock analysis report. Then, each enrollee should do a complete profit analysis on each livestock enterprise owned. Following are hints for completing these two activities.

a. Show TM-17 to enrollees to stimulate some thought. Visit with the enrollees about how to make comparisons with other farms as shown on the Livestock Analysis report. The main point that needs to be made is that the comparison must be made as a whole, not just picking out one point that is good or bad and making judgment on the one factor. What may be good for one producer is possibly bad for another. One example might be death loss in a feeder cattle enterprise. One producer's death loss may be considerably higher than another, but if that producer has been paying a lesser purchase price, it may be because feeders were purchased at a lower price per live pound. At this point, was the lower purchase price enough to offset the higher death loss? If yes, obviously this is a good management strategy for this farmer. Another common example might be in feed cost. One producer's cost of feed per 100 lbs. may be higher than another, but if efficiency gain is also better, the cost of gain could in fact be better.

The main questions the producer should be asking while making comparisons are as the transparency suggests: How do I compare? and Why am I different? Do my differences reflect improved profit; e.g., does lower feed cost give lower cost of gain? What can I or should I do about lower results? As an example, a beef cow enterprise may show a loss. However, an important question is what effect would the elimination of this enterprise Have on total farm profit? It may lower it if there is no alternative market for some of the costs charged the beef cow.

b. Give enrollees a copy of HO-55 and also a copy of HO-56. Work the problems on Sows/Raising Market Hogs together and then let enrollees work the Beef Cow/Raising Feeder Cattle problem on their own. When they have finished, go over the problem with them. The samples are completed for the instructor's reference on the following page. In discussing the outcome of these two samples, point out that even though the beef enterprise lost money, it is probably wise for the producer to continue with the cowherd because of the large value of otherwise non-marketable feeds that were charged to the herd. After you have completed these, if time permits, you might work some other examples the enrollees are interested in. If possible, use figures they can generate from their own printouts from their home farms.

3. *What can I do to make my livestock enterprises more profitable?*

This is the difficult task in any situation. How do I get better? At this point in the lesson, it is time for enrollees to begin thinking about things they can do to improve their livestock programs. So often we

LIVESTOCK ENTERPRISE ANALYSIS 19__

Item	Enterprise ______ Units ______	Enterprise ______ Units ______
1. RETURN ABOVE FEED COST AND PURCHASED LIVESTOCK	$ 11,472	$ 9,812
2. VALUE OF NON-MARKETABLE FEEDS FED		
Value of pasture charged.........	$ 0	$ 7,500
Value of hay and hay silages.....	$ 0	$ 3,750
Total......................	$ 0	$ 11,250
3. RETURN ABOVE COST OF MARKETABLE FEEDS FED ONLY (Item 1 + Item 2)	$ 11,472	$ 21,062
4. OTHER VARIABLE DIRECT CASH COSTS[a]		
Veterinary, medical..............	$ 750	$ 400
Other cash livestock expenses....	$ 1,000	$ 750
Electricity, power, fuel, and equipment repair.................	$ 750	$ 150
Total......................	$ 2,500	$ 1,300
5. RETURN ABOVE MARKETABLE FEED AND OTHER VARIABLE DIRECT CASH COSTS (Item 3 - Item 4)	$ 8,972	$ 19,762
6. OTHER POSSIBLE COSTS[a]		
Value of non-marketable feeds fed (Item 2 above)..................	$ 0	$ 11,250
Depreciation, repairs, interest, and taxes on buildings...........	$ 1,250	$ 375
Interest on investment in livestock, feed, and equipment.......	$ 1,590	$ 6,240
Labor.........................	$ 4,500	$ 3,750
General farm overhead expenses...	$ 250	$ 750
Total......................	$ 7,590	$ 22,365
7. RETURN ABOVE ALL COSTS (Item 5 - Item 6)...............	$ 1,382	$ -2,603

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[a] Use your actual costs or estimates furnished from Farm Management Manual, AE-4281, 1972.

Prepared by the Department of Agricultural Economics, Cooperative Extension Service, University of Illinois in cooperation with Illinois Farm Business Farm Management Association.

make decisions based solely on the past. Try and get the enrollees to look ahead. What goals have they set for their livestock programs? Do they want to expand in certain areas and phase out others? What kinds of investment are they willing to make? Are their enterprises as profitable as they need to be to support their living?

a. Give enrollees a copy of HO-57, Livestock Enterprise Checklist, for each enterprise they have at the present time. Give them time to complete each checklist or if you are short of time, tell them to complete the checklists at home. The main purpose of these checklists is to encourage the enrollees to consider each factor in their livestock analysis.

b. Show TM-18 to summarize this key point. Encourage discussion from enrollees on these four points.

F. Group Discussion

Sufficient time should be allotted for enrollees to ask questions and discuss ideas they may have for improving their livestock enterprises. Review the lesson and make sure enrollees understand how to interpret the Livestock Analysis Reports. Distribute blank HO-55 for home use.

G. Conclusions

Conclusions which may be reached include:

1. A number of important profitability factors are common to all livestock enterprises.
2. Each livestock enterprise must be analyzed separately.
3. A weakness in one factor does not mean anything in itself but must be considered in relationship with all other factors.
4. Improvement is difficult to achieve until you have a good understanding of the present situation and how you compare with others.
5.
6.

Announcements

Next meeting, we will be working on analyzing crop enterprises.

Social

On-the-Farm Instruction

When visiting enrollees following this lesson, help them evaluate their livestock enterprises. Sit down with them and go over their Livestock Analysis Printout and the checklists they were to complete individually. This would be an excellent opportunity to run some computer budgets such as LVMKT on CMN (Virginia) and PIGFN on RCP (Missouri). Running a least cost ration with the FEEDMIX program of AGNET (Nebraska) may be a big help in reducing feed cost. There are also analysis programs such as COWCOST and EWECOST on AGNET that are excellent in evaluating a whole herd or flock. It might also be a good time to tour the livestock facilities on the farm and make any suggestions that might be of help.

Materials Needed

Instructor

TM-16, Common Livestock Profitability Factors
TM-17, How Do I Compare?
TM-18, Making Livestock Enterprises More Profitable
Computer terminal (for on-the-farm instruction)

Student

HO-53, Livestock Enterprise Analysis of Sample Farm (computer printout)
HO-54, Enterprise Classifications--Livestock
HO-55, Livestock Enterprise Analysis (two per enrollee)
HO-56, Sample Livestock Analysis Problems
HO-57, Livestock Enterprise Checklists
Missouri Farm Business Analysis Record Book

COMMON LIVESTOCK PROFITABILITY FACTORS

TOTAL POUNDS PRODUCED

TOTAL RETURNS

VALUE OF FEED FED

RETURNS PER $100 FEED FED

RETURNS ABOVE FEED/COW OR LITTER

DEATH LOSS:PERCENT OF POUNDS PRODUCED

FEED COST/100 LBS. PRODUCED

PRICE RECEIVED FOR 100 LBS. SOLD

TOTAL RETURN PER 100 POUNDS PRODUCED

POUNDS OF FEED PER UNIT PRODUCED

HOW DO I COMPARE?

HIGH FARMS

LOW FARMS

AVERAGE FARMS

WHY AM I DIFFERENT?

MAKING LIVESTOCK ENTERPRISES MORE PROFITABLE

IF IT'S WORKING, DO MORE OF IT!

IF IT'S LOSING, STOP IT!

IF COST CAN BE CUT WITHOUT HURTING EFFICIENCY, DO IT!

IF AN ALTERNATIVE INVESTMENT WILL PAY OFF, CONSIDER IT!

Management Analysis Program

1980 LIVESTOCK ANALYSIS
FARM BUSINESS ANALYSIS
ILLIN

BEEF COW ENTERPRISE	MY FARM20 CALVES SOLD	MY FARM CALVES FED	CALVES AV. FARM	237 HO-53 FBMA II
NUMBER OF FARMS			178	65
NUMBER OF COWS IN HERD			44	50
ANIMAL UNITS IN HERD			60	66
TOTAL POUNDS PRODUCED			25218	29479
TOTAL RETURNS			16697	21757
VALUE OF FEED FED			9856	8455
RETURNS PER $100 FEED FED			169	257
RETURNS ABOVE FEED/COW			155	266
POUNDS OF BEEF PER COW IN HERD			573	589
DEATH LOSS:				
POUNDS			1366	1392
PERCENT OF POUNDS PRODUCED			5,4	4,7
FEED COST/UNIT 1000 LBS MILK OR 100 LBS BEEF			39,08	28,68
PRICE RECEIVED FOR 100 LBS SOLD			66.57	66,97
LBS FEED PER UNIT OF MILK AND BEEF:				
GRAIN			110	62
PROTEIN AND MINERALS			28	23
TOTAL CONCENTRATES			139	85
HAY AND DRY ROUGHAGE			666	481
CORN SILAGE			245	169
OTHER SILAGE			87	61
PASTURE DAYS			36	30
PASTURE DAYS PER ANIMAL UNIT			155	138
HAY EQUIV. PER COW—TONS			4,7	3,7

DAIRY CATTLE ENTERPRISE	MY FARM	AV. FARM	NUMBER OF COWS 40-80	NUMBER OF COWS 80+
NUMBER OF FARMS		254	144	45
NUMBER OF COWS		59.1	56,8	105,6
PERCENT OF COWS DRY		15,0	14,4	16,1
ANIMAL UNITS IN HERD		110	107	189
TOTAL CWT OF MILK PRODUCED		8168	7927	14562
POUNDS OF BEEF PRODUCED		36809	35199	63695
TOTAL RETURNS		122256	118760	214866
VALUE OF FEED FED		58876	58213	100627
RETURNS PER $100 FEED FED		207	204	213
RETURNS ABOVE FEED PER COW		1072	1065	1081
POUNDS OF BEEF PER COW		622	619	603
POUNDS OF MILK PER COW		13820	13955	13789
POUNDS OF BUTTERFAT PER COW		511	516	524
DEATH LOSS: PERCENT OF POUNDS PRODUCED		9,2	9,8	8,7
FEED COST/UNIT—1000 LBS MILK—100 LBS BEEF		49,68	50,85	48,07
PRICE RECEIVED FOR 100 LB MILK		12,23	12,23	12,33
100 LB BEEF		57,92	59,19	55,94
LBS OF FEED/UNITS OF MILK OR BEEF: GRAIN		345	358	327
PROTEIN AND MINERALS		86	82	100
TOTAL CONCENTRATES		431	440	428
HAY AND DRY ROUGHAGE		285	293	217
CORN SILAGE		594	639	528
OTHER SILAGE		472	470	561
PASTURE DAYS		1	1	1
PASTURE DAYS PER ANIMAL UNIT		20	18	19
HAY EQUIV. PER COW, TONS		7,4	7,6	6,8

MAY 12-77 (9M) 22, 1981

Name. SAMPLE FARM - 1980

County: 201
Farm: 153
Fieldman: 999

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HO-53 (cont'd)
FBMA II

		SHEEP ENTERPRISE	MY FARM	AV FARM
[illegible]	[illegible]	NUMBER OF FARMS		[illegible]
[illegible]	60	TOTAL POUNDS PRODUCED		[illegible]
[illegible]	60	TOTAL RETURNS		2912
[illegible]		VALUE OF FEED FED		2211
[illegible]	20129	RETURNS PER $100 FEED FED		131
[illegible]	10028			
15499	12503			
129	144	PERCENT LAMB CROP		129
120	137	DEATH LOSS --PERCENT OF LBS PRODUCED		17.0
[illegible]	703	FEED COST PER 100 LBS PRODUCED		47.83
		PRICE RECEIVED PER 100 LBS SOLD		72.00
1545	1467			
6.7	5.0			
47.61	44.44	POUNDS FEED PER 100 LBS PRODUCED:		
		CONCENTRATES		338
63.44	65.33	HAY AND DRY ROUGHAGE		692
		OTHER SILAGE		43
[illegible]	[illegible]	CORN SILAGE		43
[illegible]	38	PASTURE DAYS		23
309	287	HAY EQUIV.		1200
[illegible]	604			
313	387			
[illegible]	08			
[illegible]	30			
131	161			
5.6	5.1			
EFFICIENCY HIGH 3	 LOW 4	**MISC. LIVESTOCK ENTERPRISE**	MY FARM 31	
[illegible]	[illegible]			
[illegible]	56.1	TOTAL POUNDS PRODUCED	[illegible]	
14.9	16.1	TOTAL RETURNS	23106	
112	109	VALUE OF FEED FED	21021	
9020	6847	RETURNS PER $100 FEED FED	109	
[illegible]	31736	PRICE RECEIVED PER UNIT	.39	
[illegible]	[illegible]			
[illegible]	57700			
244	171	FEED COST PER UNIT	.33	
1418	728	DEATH LOSS PERCENT OF LBS PRODUCED	.6	
[illegible]	[illegible]			
[illegible]	12161	PRICES USED IN FEED RECORDS		
[illegible]	469	PASTURE DAY	.35	
7.8	10.3	CORN	2.80	
		WHEAT	4.00	
43.96	57.58	OATS	1.50	
12.22	12.18	MILK	1.10	
[illegible]	54.03	2 = HI-BEEF 1/3 -- RETURN/$100 FEED EXCEEDS 384		
[illegible]	409	3 = HI-DAIRY 1/3 = RET ABOVE FEED/COW EXCEED $116		
[illegible]	87	4 = LO-DAIRY 1/3 = RET ABOVE FEED/COW BELOW 94		
[illegible]	496	**GENERAL INFORMATION**	MY FARM	AV FARM
[illegible]	300			
[illegible]	686			
[illegible]	[illegible]	AVERAGE NUMBER OF MILK COWS		[illegible]
1	2	AVERAGE NUMBER OF HENS		
[illegible]	83	POUNDS OF BEEF PRODUCED		[illegible]
7.0	8.0	POUNDS OF PORK PRODUCED		[illegible]

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FARM anagement nalysis rogram

1980 LIVESTOCK ANALYSIS ILLIN
FARM BUSINESS ANALYSIS

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HO-53 (cont'd)
FBMA II

HOG ENTERPRISE	MY FARM 28	AV FARM	HI	
NUMBER OF FARMS		881	272	310
POUNDS OF PORK PRODUCED		233475	266191	170021
POUNDS OF PORK/LITTER		1667	1739	1603
TOTAL RETURNS		92638	108253	64985
VALUE OF FEED FED		66670	65587	57426
RETURNS PER $100 FEED FED		138	165	113
RETURNS ABOVE FEED PER LITTER		185	278	71
NUMBER OF LITTERS FARROWED		140	153	106
PIGS FARROWED PER LITTER		9.13	9.29	8.87
PIGS WEANED PER LITTER		7.21	7.41	6.82
LITTERS FARROWED/FEMALE YEAR		1.64	1.75	1.56
PIGS WEANED/FEMALE YEAR		12.05	12.82	11.22
DEATH LOSS: NUMBERS		61	55	50
POUNDS		4320	4137	3618
PERCENT OF POUNDS PRODUCED		1.8	1.5	2.1
WEIGHT PER HOG SOLD		237	238	239
PRICE RECEIVED PER 100 POUNDS		38.80	39.03	38.37
TOTAL RETURN PER 100 POUNDS PRODUCED		39.67	40.66	38.22
FEED COST PER 100 POUNDS PRODUCED		28.56	24.64	33.78
POUNDS FEED PER 100 POUNDS PRODUCED:				
FARM GRAINS		325	286	376
COMMERCIAL FEEDS		85	73	104
TOTAL CONCENTRATES		410	360	480
PASTURE DAYS				.1
COST PER 100 LBS OF COMMERCIAL FEEDS		14.38	13.93	14.87
COST PER 100 LBS OF CONCENTRATES		6.94	6.83	7.01

FEEDER CATTLE ENTERPRISE	MY FARM	AV FARM	PURCHASE WEIG	
			0-500	500-749
NUMBER OF FARMS		374	116	245
TOTAL POUNDS PRODUCED		141131	103477	162836
TOTAL RETURNS		67851	49525	70896
VALUE OF FEED FED		61128	42739	71299
RETURNS PER $100 FEED FED		111	115	109
AVERAGE WEIGHT PURCHASED		582	456	607
PRICE PAID PER 100 LBS		[illegible]	76.04	73.28
AVERAGE WEIGHT SOLD		1066	1019	1076
PRICE RECEIVED PER 100 POUNDS		65.87	65.33	66.03
TOTAL RETURN PER 100 POUNDS PRODUCED		48.08	47.86	48.08
FEED COST PER 100 POUNDS PRODUCED		43.31	41.30	43.79
DEATH LOSS: NUMBERS		6	7	5
POUNDS		3396	3340	3521
PERCENT OF POUNDS PRODUCED		2.4	3.2	2.1
POUNDS FEED PER 100 LBS PRODUCED:				
GRAIN		526	482	535
PROTEIN AND MINERALS		47	42	49
TOTAL CONCENTRATES		574	524	584
HAY AND DRY ROUGHAGE		62	102	50
OTHER SILAGE		165	183	189
CORN SILAGE		748	668	772
PASTURE DAYS				
HAY EQUIV.—TONS		.2	.2	.1

MAY 22, 1981 12-77 (9M)

Name: SAMPLE FARM # 1980
County: 401
Farm: [illegible]
Fieldman: 999

-53 (cont'd)

[illegible]	30+	FEEDER PIG PRODUCING ENTERPRISE	MY FARM	AV FARM
[illegible]	[illegible]	NUMBER OF FARMS		[illegible]
[illegible]	[illegible]	POUNDS OF PORK PRODUCED		[illegible]
[illegible]	[illegible]	POUNDS OF PORK/LITTER		499
[illegible]	210098	TOTAL RETURNS		22203
[illegible]	147788	VALUE OF FEED FED		15175
128	142	RETURNS PER $100 FEED FED		153
152	191	RETURNS ABOVE FEED PER LITTER		92
[illegible]	[illegible]	NUMBER OF LITTERS FARROWED		47
[illegible]	[illegible]	PIGS FARROWED PER LITTER		9.08
7.00	7.39	PIGS WEANED PER LITTER		7.15
[illegible]	[illegible]	LITTERS FARROWED/FEMALE/YEAR		[illegible]
[illegible]	[illegible]	PIGS WEANED/FEMALE/YEAR		[illegible]
[illegible]	[illegible]	DEATH LOSS: NUMBER		[illegible]
[illegible]	[illegible]	POUNDS		[illegible]
[illegible]	[illegible]	PERCENT OF POUNDS PRODUCED		3.9
243	233	WEIGHT PER PIG SOLD		52
38.12	39.05	PRICE RECEIVED PER 100 POUNDS		50.26
38.50	39.91	TOTAL RETURN PER 100 POUNDS PRODUCED		53.92
30.08	28.08	FEED COST PER 100 POUNDS PRODUCED		34.95
		[illegible]		
[illegible]	[illegible]	FARM GRAINS		[illegible]
[illegible]	[illegible]	COMMERCIAL FEEDS		[illegible]
[illegible]	[illegible]	TOTAL CONCENTRATES		[illegible]
[illegible]		PASTURE DAYS		
[illegible]	[illegible]	COST PER 100 LBS OF COMMERCIAL FEEDS		[illegible]
[illegible]	[illegible]	COST PER 100 LBS OF CONCENTRATES		[illegible]

730+		FEEDER PIG FEEDING ENTERPRISE	MY FARM	AV FARM
[illegible]		NUMBER OF FARMS		[illegible]
[illegible]		TOTAL POUNDS PRODUCED		[illegible]
[illegible]		TOTAL RETURNS		[illegible]
[illegible]		VALUE OF FEED FED		[illegible]
[illegible]		RETURNS PER $100 FEED FED		[illegible]
[illegible]		AVERAGE WEIGHT PURCHASED		[illegible]
[illegible]		PRICE PAID PER 100 LBS		[illegible]
[illegible]		AVERAGE WEIGHT SOLD		[illegible]
65.66		PRICE RECEIVED PER 100 POUNDS		39.46
49.66		TOTAL RETURN PER 100 POUNDS PRODUCED		32.18
46.98		FEED COST PER 100 POUNDS PRODUCED		26.22
[illegible]		DEATH LOSS—NUMBERS		39
[illegible]		POUNDS		3102
2.2		PERCENT OF POUNDS PRODUCED		2.3
		POUNDS FEED PER 100 LBS PRODUCED:		
437		GRAIN		[illegible]
46		PROTEIN AND MINERALS		[illegible]
[illegible]		TOTAL CONCENTRATES		[illegible]
[illegible]		COST PER 100 LBS OF COMMERCIAL FEEDS		[illegible]
[illegible]		COST PER 100 LBS OF CONCENTRATES		[illegible]
[illegible]				
.1				

2 = HI-HOG 1/3 - RETURN/$100 FEED EXCEEDS [illegible]

1 = LO-HOG 1/3 - RETURN/$100 FEED BELOW [illegible]

Farm Management Ass'ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois Departments of Agricultural Economics

ENTERPRISE CLASSIFICATIONS--LIVESTOCK

Beef

20 Beef --Cowherds with calves sold at weaning or within a very short time after weaning (= one month)
21 Beef --Cowherds with calves carried to slaughter weight
22 Beef --Cowherds with calves weaned and then backgrounded to weight ready for feedlot placement
23 Beef --Purchases and feeds out feeder cattle
24 Beef --Mixed cowherds and feeder cattle. We also use this number for other cowherds where the information is not complete or inaccurate and you have a usable hog enterprise for example.

Dairy

25 Dairy --Grade A Dairy Herds
26/27 Dairy--Used for Grade B or where you have beef cows mixed in

Hog

28 Hog --Farrow-to-Finish Hog Operation
29 Hog --Purchases and feeds out pigs
30 Hog --Produces and sells feeder pigs
31 Hog --Mixed or nonusable operation

Sheep

32 Sheep --Native Flock
33 Sheep --Feeder Herd
34 Sheep --Mixed Herds

Poultry

35 Poultry --Chick Laying Flock
36 Poultry --Pullet Laying Flock
37 Poultry --Raising Pullets
38 Poultry --Mixed Flocks

Miscellaneous

39 --Miscellaneous, used for Horses, etc.

LIVESTOCK ENTERPRISE ANALYSIS 19__

Item	Enterprise ______ Units ______	Enterprise ______ Units ______
1. RETURN ABOVE FEED COST AND PURCHASED LIVESTOCK	$______	$______
2. VALUE OF NON-MARKETABLE FEEDS FED		
Value of pasture charged.........	$______	$______
Value of hay and hay silages.....	$______	$______
Total......................	$______	$______
3. RETURN ABOVE COST OF MARKETABLE FEEDS FED ONLY (Item 1 + Item 2)	$______	$______
4. OTHER VARIABLE DIRECT CASH COSTS[a]		
Veterinary, medical..............	$______	$______
Other cash livestock expenses....	$______	$______
Electricity, power, fuel, and equipment repair................	$______	$______
Total......................	$______	$______
5. RETURN ABOVE MARKETABLE FEED AND OTHER VARIABLE DIRECT CASH COSTS (Item 3 - Item 4)	$______	$______
6. OTHER POSSIBLE COSTS[a]		
Value of non-marketable feeds fed (Item 2 above)..................	$______	$______
Depreciation, repairs, interest, and taxes on buildings...........	$______	$______
Interest on investment in livestock, feed, and equipment.......	$______	$______
Labor..........................	$______	$______
General farm overhead expenses...	$______	$______
Total......................	$______	$______
7. RETURN ABOVE ALL COSTS (Item 5 - Item 6)...............	$______	$______

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[a] Use your actual costs or estimates furnished from Farm Management Manual, AE-4281, 1972.

Prepared by the Department of Agricultural Economics, Cooperative Extension Service, University of Illinois in cooperation with Illinois Farm Business Farm Management Association.

SAMPLE LIVESTOCK ANALYSIS PROBLEMS

1. Sows/Raising Market Hogs

   a. 50 litters produced
   b. total returns = $29,787
   c. value of concentrates fed = $18,315
   d. value of pasture, hay, and silage = $0
   e. veterinarian and medicine per litter = $15
   f. other cash expenses per litter = $20
   g. electricity, power, fuel, and equipment repair per litter = $15
   h. average investment in livestock, feed, and equipment per litter = $212
   i. interest = 15%
   j. depreciation, repairs, interest, and taxes on building per litter = $25
   k. labor = 18 hours/litter at $5.00/hr.
   l. general farm overhead per litter = $5.00

2. Beef Cows/Raising Feeder Cattle

   a. 50 cows producing 450# calves
   b. total returns = $10,162
   c. value of concentrate, vitamins and minerals fed = $350
   d. value of pasture fed = $150/cow
   e. value of hay feed = $75/cow
   f. veterinarian, medical = $8/cow
   g. other cash expenses = $15/cow
   h. electricity, power, fuel, and equipment = $3.00/cow
   i. depreciation, repairs, interest and taxes on buildings = $7.50/cow
   j. average investment in livestock, feed, and equipment = $832/cow
   k. interest = 15%
   l. labor = 15 hrs. per cow at $5.00/hr.
   m. general farm overhead expense = $15.00/cow

HOG ENTERPRISE

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
1. Pounds of Pork Produced				1	2	3	4	5
2. Pounds of Pork/Litter				1	2	3	4	5
3. Total Returns				1	2	3	4	5
4. Value of Feed Fed				1	2	3	4	5
5. Returns Per $100 Feed Fed				1	2	3	4	5
6. Returns Above Feed Per Litter				1	2	3	4	5
7. Number of Litters Farrowed				1	2	3	4	5
8. Pigs Farrowed Per Litter				1	2	3	4	5
9. Pigs Weaned Per Litter				1	2	3	4	5
10. Litters Farrowed/Female Year				1	2	3	4	5
11. Pigs Weaned/Female Year				1	2	3	4	5
12. Death Loss: Numbers				1	2	3	4	5
Pounds				1	2	3	4	5
Percent of Pounds Produced				1	2	3	4	5
13. Weight Per Hog Sold				1	2	3	4	5
14. Price Received Per 100 Pounds				1	2	3	4	5
15. Total Return Per 100 Pounds Produced				1	2	3	4	5
16. Feed Cost Per 100 Pounds Produced				1	2	3	4	5
17. Pounds Feed Per 100 Pounds Produced:								
Farm Grains				1	2	3	4	5
Commercial Feeds				1	2	3	4	5
Total Concentrates				1	2	3	4	5
Pasture Days				1	2	3	4	5
18. Cost Per 100 Lbs. of Commercial Feeds				1	2	3	4	5
19. Cost Per 100 Lbs. of Concentrates				1	2	3	4	5

FEEDER PIG PRODUCING ENTERPRISE

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
1. Pounds of Pork Produced				1	2	3	4	5
2. Pounds of Pork/Litter				1	2	3	4	5
3. Total Returns				1	2	3	4	5
4. Value of Feed Fed				1	2	3	4	5
5. Returns Per $100 Feed Fed				1	2	3	4	5
6. Returns Above Feed Per Litter				1	2	3	4	5
7. Number of Litters Farrowed				1	2	3	4	5
8. Pigs Farrowed Per Litter				1	2	3	4	5
9. Pigs Weaned Per Litter				1	2	3	4	5
10. Litters Farrowed/Female Year				1	2	3	4	5
11. Pigs Weaned/Female Year				1	2	3	4	5
12. Death Loss: Numbers				1	2	3	4	5
Pounds				1	2	3	4	5
Percent of Pounds Produced				1	2	3	4	5
13. Weight Per Pig Sold				1	2	3	4	5
14. Price Received Per 100 Pounds				1	2	3	4	5
15. Total Return Per 100 Pounds Produced				1	2	3	4	5
16. Feed Cost Per 100 Pounds Produced				1	2	3	4	5
17. Pounds Feed Per 100 Pounds Produced:								
Farm Grains				1	2	3	4	5
Commercial Feeds				1	2	3	4	5
Total Concentrates				1	2	3	4	5
Pasture Days				1	2	3	4	5
18. Cost Per 100 Lbs. of Commercial Feeds				1	2	3	4	5
19. Cost Per 100 Lbs. of Concentrates				1	2	3	4	5

FEEDER CATTLE ENTERPRISE

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
1. Total Pounds Produced				1	2	3	4	5
2. Total Returns				1	2	3	4	5
3. Value of Feed Fed				1	2	3	4	5
4. Returns Per $100 Feed Fed				1	2	3	4	5
5. Average Weight Purchased				1	2	3	4	5
6. Price Paid Per 100 Lbs				1	2	3	4	5
7. Average Weight Sold				1	2	3	4	5
8. Price Received Per 100 Pounds				1	2	3	4	5
9. Total Return Per 100 Pounds Produced				1	2	3	4	5
10. Feed Cost Per 100 Pounds Produced				1	2	3	4	5
11. Death Loss: Numbers				1	2	3	4	5
Pounds				1	2	3	4	5
Percent of Pounds Produced				1	2	3	4	5
12. Pounds Feed Per 100 Lbs Produced:								
Grain				1	2	3	4	5
Protein and Minerals				1	2	3	4	5
Total Concentrates				1	2	3	4	5
Hay and Dry Roughage				1	2	3	4	5
Other Silage				1	2	3	4	5
Corn Silage				1	2	3	4	5
Pasture Days				1	2	3	4	5
Hay Equiv.--Tons				1	2	3	4	5

FEEDER PIG FEEDING ENTERPRISE

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
1. Total Pounds Produced				1	2	3	4	5
2. Total Returns				1	2	3	4	5
3. Value of Feed Fed				1	2	3	4	5
4. Returns Per $100 Feed Fed				1	2	3	4	5
5. Average Weight Purchased				1	2	3	4	5
6. Price Paid Per 100 Lbs				1	2	3	4	5
7. Average Weight Sold				1	2	3	4	5
8. Price Received Per 100 Pounds				1	2	3	4	5
9. Total Return Per 100 Pounds Produced				1	2	3	4	5
10. Feed Cost Per 100 Pounds Produced				1	2	3	4	5
11. Death Loss: Numbers				1	2	3	4	5
Pounds				1	2	3	4	5
Percent of Pounds Produced				1	2	3	4	5
12. Pounds Feed Per 100 Lbs Produced:								
Grain				1	2	3	4	5
Protein and Minerals				1	2	3	4	5
Total Concentrates				1	2	3	4	5
13. Cost Per 100 Lbs. of Commercial Feeds				1	2	3	4	5
14. Cost Per 100 Lbs. of Concentrates				1	2	3	4	5

BEEF COW ENTERPRISE

	Above	Average	Below	Immediate Attention		Undecided		Satisfactory Performance
1. Number of Cows in Herd				1	2	3	4	5
2. Animal Units in Herd				1	2	3	4	5
3. Total Pounds Produced				1	2	3	4	5
4. Total Returns				1	2	3	4	5
5. Value of Feed Fed				1	2	3	4	5
6. Returns Per $100 Feed Fed				1	2	3	4	5
7. Returns Above Feed/Cow				1	2	3	4	5
8. Pounds of Beef Per Cow in Herd				1	2	3	4	5
9. Death Loss:								
Pounds				1	2	3	4	5
Percent of Pounds Produced				1	2	3	4	5
10. Feed Cost/Unit--1000 Lbs Milk or 100 Lbs Beef				1	2	3	4	5
11. Price Received for 100 Lbs Sold				1	2	3	4	5
12. Lbs Feed Per Unit of Milk and Beef:								
Grain				1	2	3	4	5
Protein and Minerals				1	2	3	4	5
Total Concentrates				1	2	3	4	5
Hay and Dry Roughage				1	2	3	4	5
Corn Silage				1	2	3	4	5
Other Silage				1	2	3	4	5
Pasture Days				1	2	3	4	5
13. Pasture Days Per Animal Unit				1	2	3	4	5
14. Hay Equiv. Per Cow--Tons				1	2	3	4	5

DAIRY CATTLE ENTERPRISE

		Above	Average	Below	Immediate Attention		Undecided		Satisfactory Performance
1.	Number of Cows				1	2	3	4	5
2.	Percent of Cows Dry				1	2	3	4	5
3.	Animal Units in Herd				1	2	3	4	5
4.	Total Cwt of Milk Produced				1	2	3	4	5
5.	Pounds of Beef Produced				1	2	3	4	5
6.	Total Returns				1	2	3	4	5
7.	Value of Feed Fed				1	2	3	4	5
8.	Returns Per $100 Feed Fed				1	2	3	4	5
9.	Returns Above Feed Per Cow				1	2	3	4	5
10.	Pounds of Beef Per Cow				1	2	3	4	5
11.	Pounds of Milk Per Cow				1	2	3	4	5
12.	Pounds of Butterfat Per Cow				1	2	3	4	5
13.	Death Loss: Percent of Pounds Produced				1	2	3	4	5
14.	Feed Cost/Unit--1000 Lbs Milk--100 Lbs Beef				1	2	3	4	5
15.	Price Received for: 100 Lb Milk				1	2	3	4	5
	100 Lb Beef				1	2	3	4	5
16.	Lbs of Feed/Units of Milk or Beef:								
	Grain				1	2	3	4	5
	Protein and Minerals				1	2	3	4	5
	Total Concentrates				1	2	3	4	5
	Hay and Dry Roughage				1	2	3	4	5
	Corn Silage				1	2	3	4	5
	Other Silage				1	2	3	4	5
	Pasture Days				1	2	3	4	5
17.	Pasture Days Per Animal Unit				1	2	3	4	5
18.	Hay Equiv. Per Cow, Tons				1	2	3	4	5

SHEEP ENTERPRISE

	Above	Average	Below	Immediate Attenton		Undecided		Satisfactory Performance
1. Total Pounds Produced				1	2	3	4	5
2. Total Returns				1	2	3	4	5
3. Value of Feed Fed				1	2	3	4	5
4. Returns Per $100 Feed Fed				1	2	3	4	5
5. Percent Lamb Crop				1	2	3	4	5
6. Death Loss: Percent of Lbs Produced				1	2	3	4	5
7. Feed Cost Per 100 Lbs Produced				1	2	3	4	5
8. Price Received Per 100 Lbs Sold				1	2	3	4	5
9. Pounds Feed Per 100 Lbs Produced:								
Concentrates				1	2	3	4	5
Hay and Dry Roughage				1	2	3	4	5
Other Silage				1	2	3	4	5
Corn Silage				1	2	3	4	5
Pasture Days				1	2	3	4	5
Hay Equiv.				1	2	3	4	5

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 8: Analyzing Crop Enterprises

A. Review

The previous lesson, Analyzing Livestock Enterprises, should be reviewed. Discuss a summary of key points and conclusions reached at the last meeting. Possible conclusions may have included:

1. A number of important profitability factors are common to all livestock enterprises.
2. Each livestock enterprise must be analyzed separately.
3. A weakness in one factor does not mean anything in itself but must be considered in relationship with all other factors.
4. Improvement is difficult to achieve until you have a good understanding of the present situation and how you compare with others.
5.
6.

B. Objective

To be able to analyze the various crop enterprises and determine strengths and weaknesses in the cropping program.

C. Motivation

Begin the motivation for this lesson by asking the enrollees which crop grown was most profitable for them last year. Write the name of each crop mentioned on the board and the number of times it was mentioned beside each crop. Repeat this procedure for each of the past four or five years and try to come to some sort of consensus on the crops that have been the most profitable and why certain crops work better for some enrollees than for others. Then ask some questions to get the enrollees thinking about problems in analyzing a cropping enterprise; e.g., Why not grow only one crop that has historically been the most profitable? What are the most important factors in crop profitability? What are the disadvantages or trade-offs in staying with one or two crops? How have crop rotations affected crop yields, fertilizer costs, pesticide cost, soil structure and tilth? Can I afford to take a lower yield in return for better soil conservation? These questions and others brought in to the discussion by the enrollees will help stimulate thought toward crop analysis.

As the leader of the discussion, you need to point out that analyzing individual crops is necessary and good, but that realistically all crops grown must be considered as part of a total cropping program and that the program as a whole must be analyzed because of the relationships various crops have with each other.

D. Key Points

Key points which will be accomplished are as follows:

1. *What are the profitability factors in crop production?*
2. *How do I analyze my crop enterprises?*
3. *How can I make my crop enterprises more profitable?*
4. *How can I compare rental agreements?*

E. Introduction of Information

Begin the introduction of information by telling enrollees that we will first discuss the importance and impact of each profitability factor. We will then work toward using information from the computer printout in making an individual analysis of crop enterprises.

1. *What are the profitability factors in crop production?*

   a. Have enrollees get out their computer printouts and lay the profit and loss statement in front of them or give them HO-58 to follow along on while you point out the various profitability factors in crop production. While showing TM-19, discuss each profitability factor relating to crops and show where each figure is found and how it is arrived at. Information used in crop analysis comes from the CROP PRODUCTION ANALYSIS on the bottom left of the profit and loss summary and from the FARM RETURNS AND COSTS section on the right half of the profit and loss summary. Below are comments and examples of each factor to aid in your discussion.

      (1) CROP YIELD--is expressed in bushels/acre for corn, soybeans, wheat, oats, and barley; milo and fescue seed are expressed in hundred weights/

acre; haylage, corn and sorghum silage, alfalfa hay, legume and grass hay, and red clover hay are expressed in tons/acre; cotton is expressed in pounds/acre; and miscellaneous and other crops are expressed as commonly known.

(2) LAND USE %/crop--indicates percent of tillable acres planted to each crop; e.g., as on the sample printout, 465 acres corn ÷ 775 tillable acres = 60% of my farm in corn.

(3) PRICE RECEIVED/unit--price is expressed as price per unit as expressed in yield per acre; e.g., $2.41/bu. for corn $41.75/ton paid for legume-grass hay, etc.

(4) CROP RETURNS/tillable acre--crop returns/acre = (crop sales + value of crop used for seed + value of feed fed to livestock + inventory change for the year - crop purchased - value of milk fed) ÷ tillable acres.

(5) SOIL FERTILITY: cost per tillable acre--soil fertility/tillable acre = (total fertilizer purchased + or - difference in amount of prepaid fertilizer from the beginning to the end of the year) ÷ tillable acres.

(6) PESTICIDES: cost per tillable acre--pesticides/tillable acre = (total pesticides purchased + or - difference in amount of prepaid pesticides from the beginning to the end of the year) ÷ tillable acres.

(7) SEED: cost per tillable acre--seed/tillable acre = (total seed purchased + or - difference in amount of prepaid seed from the beginning to the end of the year) ÷ tillable acres.

(8) POWER & EQUIPMENT COST/tillable acre--power and equipment cost/tillable acre = [utilities + machinery repairs + machine hire + fuel and oil + auto (farm share) + machinery depreciation + or - difference in amount of prepaid items from the beginning to the end of the year] ÷ tillable acres. Not all of this amount is attributed to crops. Each enrollee will have to determine what percentage should be allocated to the crop enterprise and what percentage should be allocated to the livestock enterprise.

(9) DRYING AND STORAGE: cost per tillable acre--drying and storage/tillable acre = (total cost of drying and storage + or - difference in prepaid drying and storage costs from the beginning of the year) ÷ tillable acres.

b. After discussing each crop profitability factor, work through some examples on how to calculate each factor. Preferably, use figures from one of the enrollees' printouts. As you figure examples on the board, have enrollees check the figures on their own printouts. The main idea here is that the enrollees will know how figures are derived for the crop analysis. The main problem in doing this is knowing how much of an item was prepaid at the beginning and at the end of the year. The enrollees will need to look back at their beginning and closing inventories to find these figures.

2. *How do I analyze my crop enterprises?*

In analyzing crop enterprises, we will first look at whether or not the enterprises have been profitable and then how to determine weaknesses and strengths by comparing "My Farm" with the "Average Farm."

a. While showing TM-20, discuss with the enrollees how to make a quick evaluation of the profitability of the cropping program. Use the following procedure in developing the discussion.

(1) Show TM-21 and discuss the general formula presented to obtain "management returns attributable to the cropping enterprise." Going back to TM-20, ask the enrollees if the cropping enterprise on the sample farm was a profitable one? (The crop enterprise on the sample farm was definitely profitable in the year shown. Since it is mostly a cropping operation to begin with, the returns and costs associated with livestock are minimal. Profits or returns to management are generally considered to be "pure profit" with charges made to unpaid labor and unpaid interest on land and other capital. The $16.17 management return per acre in the example would be considered profitable, especially when compared to the -$23.60 management return/acre on the average farm.)

(2) Now have the enrollees examine their own crop enterprises for profitability. Using the formula as shown on TM-21, have the enrollees use the figures on their own printouts to come up

with "management returns attributable to crops" on their own farm. This is an individual activity for each enrollee couple to work on by themselves. Save any personal discussion of findings for on-the-farm instruction.

(3) The third step in analyzing the crop enterprise is comparing "MY FARM" to the "AV FARM." Have enrollees compare each cropping profitability factor with the average farm, pointing out that each comparison must be evaluated with more than just a + or - difference. Questions the enrollees need to ask themselves are like these: Is my yield higher or lower than average? Is the difference because of something I did right or wrong or was it due to factors beyond my control? How do I rate on prices received for the various crops? Should better marketing be a goal or am I satisfied? Are my costs in line with the average? If my costs are higher, are my returns also enough better to make up the difference? Was this a normal year? If it was not a normal year, would my cropping be profitable in an average year?

At this point enrollees will probably want to insert some ideas into the discussion concerning past experiences in the cropping enterprises.

3. *How can I make my crop enterprises more profitable?*

a. Show TM-22 which outlines a logical procedure for enrollees to begin thinking toward making the cropping enterprises more profitable. Follow the flow chart through discussing each point. Use the following points to aid in your discussion.

(1) Check management returns per tillable acre for crops.

If this figure is high, a good profit is already being made in the cropping enterprises and the enrollees should evaluate their income goals. If they are happy, no particular changes may be desired. However, if the present cropping system has been consistently successful, expansion may be in order. If so, the enrollee needs to look at the profitability of each individual crop over the years.

If the figure is low, check the value of crop production or crop returns.

(2) If crop returns are high with management returns low, this is a signal that costs are excessive. Check cash and non-cash costs such as fertility costs, pesticide costs, machine costs, etc. It is important to remember the principle of diminishing returns in determining the optimum amount to spend on each crop input.

If the value of crop production or crop returns is low, check such factors as crop yields, land use, and selling prices. Try to pinpoint some problem spots and develop solutions.

b. Give enrollees a copy of HO-59, Crop Enterprise Checklist, to use in a self-evaluation of their crop enterprises. Give them adequate time to complete each checklist, or if short of time, ask them to complete them before the next on-the-farm visit.

c. Summarize this key point by showing TM-23 to give enrollees a little food for thought. Remind then that we can never make sound decisions based strictly on one year's analysis but that it must be a continuing analysis. These are all important questions for the enrollees to ask themselves. Ask the enrollees for any other questions they might ask of themselves in order to get a foothold in improving their cropping enterprises.

4. *How can I compare rental agreements?*

a. Distribute two copies of HO-60 to enrollees. While showing TM-24, discuss the worksheet and how it is completed. Go over the footnotes to make sure everyone understands how each item is figured. Emphasize to the enrollees that it is very important to use a rental agreement that is fair to both parties over a period of years and that if an agreement is biased in favor of one party or another, the agreement is not likely to last. Also, point out that it is important to try to normalize the agreement. In other words, try to use yields, costs, and figures which would occur in a normal or average year instead of what happened last year.

b. Give enrollees a copy of HO-61. Have them complete the problem using the cash rent option first. Help them get over any problems they may have. They should then go ahead and work out the two crop share options. The problems are completed on the next page to aid in your discussion. When the enrollees have finished, ask them to compare answers and validate each other's figures. Use the following points in discussing the problems.

DETERMINING A FAIR RENTAL AGREEMENT

Lease guidelines for determining rental agreements:

1. Variable costs should be shared in same proportion as product is shared.
2. Returns from each enterprise should be shared in the same proportion.
3. Returns of each investment should go to its contributor even though there is quite a bit of time from costs to returns.

Type of agreement[1]	CASH RENT		CROP SHARE		CROP SHARE	
	LAND-LORD	RENTER	LAND-LORD	RENTER	LAND-LORD	RENTER
% share of product		100%	50%	50%	33⅓%	66⅔%
RECEIPTS:						
1. Value of Grain (un. 80 x $3.00)	70 cash rent	240	120	120	79.92	160.08
2. Value of Stalks/Straw[2] (if used)		10		10		10
TOTAL RECEIPTS:	70	250	120	130	79.92	170.08
EXPENSES:						
1. Plowing (chisel or moldboard)[3]		6		6		6
2. Discing		9		9		9
3. Harrowing						
4. Planting or Drilling		3.75		3.75		3.75
5. Spraying		2.25		2.25		2.25
6. Cultivating		3		3		3
7. Combining		15		15		15
8. Seed		10	5	5	3.33	6.67
9. Starter Fertilizer		15	7.50	7.50	5	10
10. Maintenance Fertilizer[4]		40	20	20	13.32	26.68
11. Lime	5		5		5	
12. Herbicide		5	2.50	2.50	1.66	3.34
13. Insecticide						
14. Drying & Storage						
15. Interest on Variable Costs[5] 15%		10.50	5.25	5.25	3.50	7.00
16. Labor (hrs. of labor x rate/hr.)		24		24		24
17. Land Cost[6]	45	70	45		45	
18. Other Costs						
19. Other Costs						
TOTAL EXPENSES:	50	213.50	90.25	103.25	76.81	116.69
MANAGEMENT RETURNS: (Total Receipts - Total Expenses)	20	36.50	29.75	26.75	3.11	53.39

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[1] Crop-Share, Cash Rent, Lease.

[2] List a value for stalks and straw only if either the landlord or renter makes use of them.

[3] A rule of thumb in estimating total cost of operating owned machinery is to use about 75 percent of the common custom rate.

[4] Maintenance fertilizer is the fertilizer applied to grow the crop and keep the soil up to test.

[5] Interest = total of lines 8-13 x 15 % (interest rate).

[6] Use the rental rate if cash renting or for owned land, multiply value of land/acre x 3 percent. The 3 percent is only an average rate of return to land investment and will fluctuate with time. Also, be sure to charge the cost of property tax/acre to the landowner.

(1) Note that if figured correctly, the total management returns for landlord and renter under each of the three agreements must be the same. In this case, the total management returns in each situation is $56.50.

(2) The cash rent agreement, which returned $20/acre to the landlord and $36.50/acre to the renter, appears to be in favor of the renter. However, with a cash rent agreement, the landlord assumes no risk and the renter stands all risk. Therefore, the cash rent agreement appears workable.

(3) The 50-50 crop share agreement, which returned $29.75 to the landlord and $26.75 to the renter, appears to be a very workable agreement. Both parties are sharing risk on the variable costs equally. In this situation, it is definitely to both parties' advantage to optimize income from the crop. To give the renter a little better position, the landlord could pay for some proportion of the combining, which is often customary in agreements such as this.

(4) The 1/3-2/3 crop share agreement, which returned $3.11 to the landlord and $53.39 to the renter, would not be an equitable agreement without adjustment. Even though the renter assumes a higher percentage of risk and should receive a potentially higher return, the difference should not be as great as in a cash rent situation. To make this a workable agreement, the renter could pay for a higher proportion of the variable costs to bring the returns in line with what they should be.

c. Discuss the thought questions at the top of the problem. During the discussion, point out that there are always considerations other than those costs and figures included in problems. A renter should always think of other considerations; e.g., Do you trust the landlord? Will the rental agreement last for more than one or two years? Is the landlord interested in soil conservation? Will the landlord want high profit crops grown continuously or is soil conserving rotation a priority? Enrollees should ask themselves these types of questions in addition to working through the cost-return problems when they are considering rental agreements.

F. Group Discussion

Sufficient time should be allotted for enrollees to ask questions and discuss any problems associated with the lesson. Be sure they understand where all the figures come from on the handout that pertains to the cropping enterprise.

G. Conclusions

Conclusions which may be reached include:

1. It is impossible and impractical to make sweeping changes in a cropping program based on just one year's analysis.
2. Management returns per acre is an important indicator of profitability of the farming operation as a whole.
3. All factors considered in the profitability of crop enterprises must be considered in relationship to each other.
4.
5.

Announcements

Next meeting, we will be analyzing machinery costs and investment.

Social

On-the-Farm Instruction

When visiting enrollees following this lesson, sit down with them and discuss their cropping program as relating to what we worked on in this lesson. Go through their computer printout together and point out strengths and weakness in last year's cropping program. Visit with them about this year's cropping plans and go over any technical information that may be of help. This would be a good time to run the KCP program, BCROP, on various cropping alternatives they might be interested in. Discuss also any marketing problems they have experienced in the past and alternatives in marketing that may be of help.

Materials Needed

Instructor

- TM-19, Profitability Factors in Crop Production
- TM-20, Profit and Loss Statement for Sample Farm (computer printout) (combined with HO-58)
- TM-21, Crops--How Profitable?
- TM-22, Trouble Shooting the Crop Enterprise
- TM-23, Improving the Crop Enterprise
- TM-24, Determining a Fair Rental Agreement (combined with HO-60)
- Computer terminal (optional for on-the-farm instruction)

Student

- HO-58, Profit and Loss Statement for Sample Farm (computer printout) (combined with TM-20)
- HO-59, Crop Enterprise Checklist
- HO-60, Determining a Fair Rental Agreement (distribute in duplicate) (combined with TM-24)
- HO-61, Problem: Comparing Rental Agreements
- Missouri Farm Business Analysis Record Book

PROFITABILITY FACTORS IN CROP PRODUCTION

CROP YIELD

LAND USE %/CROP

PRICE RECEIVED/UNIT

CROP RETURNS/TILLABLE ACRE

SOIL FERTILITY: COST PER TILLABLE ACRE

PESTICIDES: COST PER TILLABLE ACRE

SEED: COST PER TILLABLE ACRE

POWER & EQUIPMENT COST/TILLABLE ACRE

DRYING AND STORAGE: COST PER TILLABLE ACRE

FARM Management Analysis Program

1980

FARM BUSINESS ANALYSIS

273
TM-20
HO-58
FBMA II

INCOME AND EXPENSES*	OPERATOR	LANDLORD	TOTAL	AV FARM OPR SHR	AV FARM TOTAL
FARM INCOME					
CROPS, GOVERNMENT PAYMENTS	148692	73000			197023
LIVESTOCK, LIVESTOCK PRODUCTS	33121				17987
OTHER FARM RECEIPTS	1303				9559
TOTAL CASH OPERATING INCOME	183116	73000	256116	142732	224569
INVENTORY CHANGE	1277	19145			795
ACCTS. RECEIVABLE (net change)					
FARM PRODUCTS USED	1423	685			1458
LESS: PURCHASED FEED	9996				3489
PURCHASED LIVESTOCK	1669				9629
GROSS FARM RETURNS	174151	92830	266981	135165	213703
FARM OPERATING EXPENSES					
FERTILIZER	14696	4833			27876
PESTICIDES	8930	5338			8969
SEED	7998	363			8084
DRYING & STORAGE	10713	169			1714
LIVESTOCK SUPPLIES & SERVICES	762				1155
POWER & EQUIPMENT	14065				20352
INTEREST	9977			12745	12745
HIRED LABOR	5261				3827
BUILDING REPAIR	694				781
INSURANCE	3303				3448
TAXES	2980	9808			12887
CASH RENT & SETTLEMENTS					6796
MISCELLANEOUS	1454				1004
TOTAL CASH OPERATING EXPENSE	80833	20511	101344	79307	109638
FARM PRODUCED INPUTS	685	685			749
PREPAID EXPENSE (— if increase)		1196-			791-
ACCOUNTS PAYABLE (+ if increase)	2000-				
TOTAL OPERATING EXPENSE	79518	20000	99518	79161	109596
INCOME BEFORE DEPRECIATION	94633	72830	167463	56004	104107
LESS DEPRECIATION	30076	41	30117	18992	20059
FARM OPERATING INCOME	64557	72789	137346	37012	84048
GAIN OR LOSS ON MCHY & BLDG SOLD	1325		1325	180	180
NET FARM INCOME	65882	72789	138671	37192	84228
INTEREST ON EQUITY CAPITAL	43988	70155	114143	25624	85433
UNPAID FAMILY LABOR				689	689
OPERATOR(S) LABOR AND MGMT. INCOME	21894	2634	24528	10879	1894-
UNPAID OPERATOR LABOR	12000		12000	13832	13832
MANAGEMENT RETURNS	9894	2634	12528	2953-	15726-
LABOR AND MGMT. INCOME PER OPERATOR	21894			9400	

CROP PRODUCTION ANALYSIS

LAND USE AND CROP PRODUCTION	Acres: My Farm	CROP YIELDS My Farm	CROP YIELDS Av. Farm	LAND USE % My Farm	LAND USE % Av. Farm	GRAIN PRICES Received Oper.	GRAIN PRICES Received Av.	GRAIN PRICES Paid Oper.	GRAIN PRICES Paid Av.
CORN	465	143	87	60.0	51.6	2.41	2.61		3.10
SOYBEANS	256	46	39	33.0	42.9	7.16	6.46		
WHEAT	10	63	71	1.3	1.7	4.16	3.98		
OATS	20	50	70	2.6	.4	1.70	1.81		2.12
OTHER GRAIN			91		.3		2.91		
DC-SOYBEANS			30		.2				
CORN SILAGE			9		.5				
LEGUME GRASSES	24	3	1	3.1	2.6			41.75	39.70
TOTAL	775			100.0	100.2				

*For detailed Cash Flow see Financial Summary Page.

MAY 22, 1981

Name: SAMPLE FARM - 1980
Acres 0650-0800
Type: GRAIN
Feed-% Fed Range: 1-40
Soil Rating:
Feed-% Fed Average: 5
No. In Average: 19
Feed-% Fed My Farm: 11

FARM RETURNS AND COSTS	TOTAL FARM	PER TILLABLE ACRE		
		MY FARM	AV FARM	DIFF
FARM RETURNS:				
CROP RETURNS	259642	335,02	305,07	29,95
LVSTK RETURN ABOVE FEED	6036	7,79	5,15	2,64
CUSTOM WORK	1091	1,41	2,55	1,14-
OTHER FARM RECEIPTS	212	,27	1,65	1,38-
GROSS VALUE OF FARM PRODUCTION	266981	344,49	314,42	30,07
FARM COSTS:				
SOIL FERTILITY	19429	25,07	40,92	15,85-
PESTICIDES	13172	17,00	13,63	3,37
SEED	9731	12,56	13,66	1,10-
CROP TOTAL	42332	54,62	68,21	13,59-
UTILITIES	1043	1,35	2,75	1,40-
MACHINERY REPAIRS	5042	6,51	10,52	4,01-
MACHINE HIRE	488	,63	1,63	1,00-
FUEL & OIL	7034	9,08	14,79	5,71-
AUTO-FARM SHARE	458	,59	1,23	,64-
MACHINERY DEPRECIATION	27875	35,97	25,39	10,58
POWER & EQUIPMENT TOTAL	41940	54,12	56,32	2,20-
DRYING AND STORAGE -	10882	14,04	2,61	11,43
BUILDING REPAIR	694	,90	1,19	,29-
BUILDING DEPRECIATION	2242	2,89	5,09	2,20-
BUILDING TOTAL	13818	17,83	8,89	8,94
Months Av. Months				
LABOR UNPAID 12,0 14,3	12000	15,48	21,76	6,28-
LABOR PAID 6,0 4,3	5261	6,79	5,82	,97
LABOR TOTAL 18,0 18,6	17261	22,27	27,58	5,31-
LIVESTOCK SUPPLIES & SERVICES	762	,98	1,75	,77-
INSURANCE	3303	4,26	5,24	,98-
TAXES	12788	16,50	19,58	3,08-
MISCELLANEOUS	1454	1,88	1,53	,35
INTEREST CHG, LAND 2,8 %, OTHER 12,0 %	122120	157,57	149,20	8,37
OTHER COSTS, TOTAL	140427	181,20	177,30	3,90
TOTAL NON-FEED COSTS	255778	330,04	338,27	8,23-
GAIN OR LOSS ON MCHY & BLDG. SOLD	1325	1,71	,27	1,44
MANAGEMENT RETURNS	12528	16,17	23,60-	39,77
PROD. PER $1. NON-FEED COST		1,04	,93	
FARM PRODUCTION PER MAN YEAR		177987	133450	
FARM PROD. PER $1,000 CAPITAL		85	80	
LIVESTOCK VOLUME CWT-PORK		645	92	
VALUE OF FEED FED		28802	9172	

% OF PRODUCTION	DOLLARS	MY %	AV %	LAND INFORMATION	MY	AV
TOTAL OPERATING EXPENSE	99518	37,2	49,8	TOTAL ACRES	780	709
DEPRECIATION	30117	11,2	9,6	TILLABLE ACRES	775	658
FARM OPERATING INCOME	137346	51,4	40,6	TOTAL CROP ACRES	775	659
GROSS VALUE OF PROD	266981	100,0	100,0	SOIL RATING	94	92

INVESTMENT	OPERATOR		LANDLORD		TOTAL FARM	
	Beg.-Yr.	End-Yr.	Beg.-Yr.	End-Yr.	Beg. Yr.	End-Yr.
CROPS AND FEED	144761	143390	75807	94952	220568	238342
LIVESTOCK	17102	19750			17102	19750
MACHINERY	95064	115080	63	22	95127	115102
BUILDINGS	23248	21006			23248	21006
SOIL FERTILITY						
LAND VALUE (CURRENT)	614336	614336	2139436	2139436	2753772	2753772
TOTAL CAP INVESTMENT	894511	913562	2215306	2234410	3109817	3147972

RATE EARNED ON FARM INVESTMENT % LANDLORD 3,27 AV. 2,49 TOT FARM 4,30 AV. 3,20
INVESTMENT PER MAN MY FARM 2085729 AV. 1663409

Farm Management Ass ns and Farm Analysis groups cooperating with University of Kentucky and University of Illinois Departments of Agricultural Economics

CROPS--HOW PROFITABLE?

CROP RETURNS/ACRE

-

SOIL FERTILITY/ACRE

-

PESTICIDES/ACRE

-

SEED/ACRE

-

CROPS SHARE OF POWER & EQUIPMENT/ACRE

-

DRYING & STORAGE/ACRE

-

CROPS SHARE OF BUILDING REPAIR & DEPRECIATION/ACRE

-

CROPS SHARE OF TOTAL LABOR/ACRE

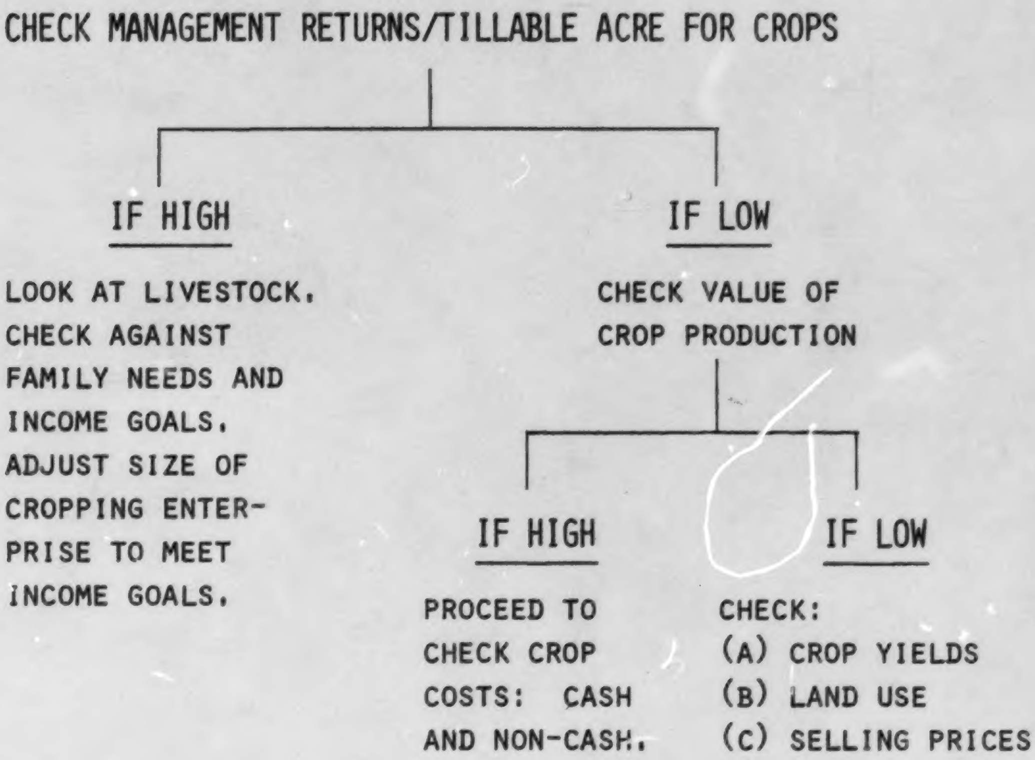
-

CROPS SHARE OF INSURANCE, TAXES, MISC. & INTEREST/ACRE

=

MANAGEMENT RETURNS ATTRIBUTABLE TO CROPS

TROUBLE SHOOTING THE CROP ENTERPRISE



CHECK MANAGEMENT RETURNS/TILLABLE ACRE FOR CROPS

IF HIGH

LOOK AT LIVESTOCK. CHECK AGAINST FAMILY NEEDS AND INCOME GOALS. ADJUST SIZE OF CROPPING ENTERPRISE TO MEET INCOME GOALS.

IF LOW

CHECK VALUE OF CROP PRODUCTION

IF HIGH

PROCEED TO CHECK CROP COSTS: CASH AND NON-CASH.

IF LOW

CHECK:
(A) CROP YIELDS
(B) LAND USE
(C) SELLING PRICES

IMPROVING THE CROP ENTERPRISE

WAS THIS A "NORMAL YEAR?"

DID I MAKE MONEY ON CROPS?

DID I MARKET WELL?

HOW CAN I IMPROVE?

CROP ENTERPRISE CHECKLIST

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
1. Crop Yield								
Corn				1	2	3	4	5
Soybeans				1	2	3	4	5
Wheat				1	2	3	4	5
Oats				1	2	3	4	5
Fescue				1	2	3	4	5
Haylage				1	2	3	4	5
Corn & Sorghum Silage				1	2	3	4	5
Alfalfa				1	2	3	4	5
Legumes & Grasses				1	2	3	4	5
Milo				1	2	3	4	5
Red Clover				1	2	3	4	5
Cotton				1	2	3	4	5
Barley				1	2	3	4	5
Other Crops				1	2	3	4	5
2. Land Use %								
Corn				1	2	3	4	5
Soybeans				1	2	3	4	5
Wheat				1	2	3	4	5
Oats				1	2	3	4	5
Fescue				1	2	3	4	5
Haylage				1	2	3	4	5
Corn & Sorghum Silage				1	2	3	4	5
Alfalfa				1	2	3	4	5
Legumes & Grasses				1	2	3	4	5
Milo				1	2	3	4	5
Red Clover				1	2	3	4	5
Cotton				1	2	3	4	5
Barley				1	2	3	4	5
Other Crops				1	2	3	4	5

	Above	Average	Below	Immediate Attention		Undecided	Satisfactory Performance	
3. Price Received								
Corn				1	2	3	4	5
Soybeans				1	2	3	4	5
Wheat				1	2	3	4	5
Oats				1	2	3	4	5
Fescue				1	2	3	4	5
Haylage				1	2	3	4	5
Corn & Sorghum Silage				1	2	3	4	5
Alfalfa				1	2	3	4	5
Legumes & Grasses				1	2	3	4	5
Milo				1	2	3	4	5
Red Clover				1	2	3	4	5
Cotton				1	2	3	4	5
Barley				1	2	3	4	5
Other Crops				1	2	3	4	5
4. Crop Returns per tillable acre				1	2	3	4	5
5. Soil Fertility Cost per tillable acre				1	2	3	4	5
6. Pesticide Cost per tillable acre				1	2	3	4	5
7. Seed Cost per tillable acre				1	2	3	4	5
8. Utilities Cost per tillable acre				1	2	3	4	5
9. Machinery Repairs per tillable acre				1	2	3	4	5
10. Machine Hire per tillable acre				1	2	3	4	5
11. Fuel & Oil Cost per tillable acre				1	2	3	4	5
12. Auto-Farm Share per tillable acre				1	2	3	4	5
13. Machinery Depreciation per tillable acre				1	2	3	4	5
14. Power & Equipment Total Cost per tillable acre				1	2	3	4	5
15. Total Building Costs per tillable acre				1	2	3	4	5
16. Total Labor Cost per tillable acre				1	2	3	4	5

DETERMINING A FAIR RENTAL AGREEMENT

Lease guidelines for determining rental agreements:

1. Variable costs should be shared in same proportion as product is shared.
2. Returns from each enterprise should be shared in the same proportion.
3. Returns of each investment should go to its contributor even though there is quite a bit of time from costs to returns.

Type of agreement[1]						
	LAND-LORD	RENTER	LAND-LORD	RENTER	LAND-LORD	RENTER
% share of product						
RECEIPTS:						
1. Value of Grain (un. ___ x $ ___)						
2. Value of Stalks/Straw[2] (if used)						
TOTAL RECEIPTS:						
EXPENSES:						
1. Plowing (chisel or moldboard)[3]						
2. Discing						
3. Harrowing						
4. Planting or Drilling						
5. Spraying						
6. Cultivating						
7. Combining						
8. Seed						
9. Starter Fertilizer						
10. Maintenance Fertilizer[4]						
11. Lime						
12. Herbicide						
13. Insecticide						
14. Drying & Storage						
15. Interest on Variable Costs[5]						
16. Labor (hrs. of labor x rate/hr.)						
17. Land Cost[6]						
18. Other Costs						
19. Other Costs						
TOTAL EXPENSES:						
MANAGEMENT RETURNS: (Total Receipts - Total Expenses)						

[1] Crop-Share, Cash Rent, Lease.

[2] List a value for stalks and straw only if either the landlord or renter makes use of them.

[3] A rule of thumb in estimating total cost of operating owned machinery is to use about 75 percent of the common custom rate.

[4] Maintenance fertilizer is the fertilizer applied to grow the crop and keep the soil up to test.

[5] Interest = total of lines 8-13 x _____% (interest rate).

[6] Use the rental rate if cash renting or for owned land, multiply value of land/acre x 3 percent. The 3 percent is only an average rate of return to land investment and will fluctuate with time. Also, be sure to charge the cost of property tax/acre to the landowner.

PROBLEM: COMPARING RENTAL AGREEMENTS

Using HO-60, determine which of the proposed rental agreements would be most desirable for the renter and which would be most desirable for the landlord. Which one do you think would be the fairest for the landlord and renter over a period of time?

Farmer Jones has the opportunity of renting some additional land next year. The landlord wants corn grown on the land and is willing to go cash rent, crop share 50-50, or crop share 1/3-2/3. Jones has estimated costs and values as shown below. If cash rented, the landlord wants $70/acre cash rent.

- 80 bushels of corn/acre at $3.00/bu.
- renter can pasture stalks after harvest--value of $10/acre
- plow with moldboard plow--common custom rate = $8.00/acre
- disc twice--common custom rate = $6.00/acre each discing
- planting--common custom rate = $5.00/acre
- spraying--common custom rate = $3.00/acre
- 1 cultivation--common custom rate = $4.00/acre
- combining--common custom rate = $20.00/acre
- herbicide cost of $5.00/acre
- figure interest at a rate of 15 percent
- 10 lbs. seed/acre at $1.00/lb.
- starter fertilizer at $15.00/acre
- maintenance fertilizer at $40.00/acre
- lime at $5.00/acre (applied by landlord)
- the land is worth about $1500/acre
- Jones' labor is worth about $6.00/hr. figure 4 hrs. labor per acre

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 9: Analyzing Machinery, Equipment, and Building Costs

A. Review

The previous lesson, Analyzing Crop Enterprises, should be reviewed. List conclusions identified at the last meeting. Conclusions may have included:

1. It is impossible and impractical to make sweeping changes in a cropping program based on just one year's analysis.
2. Management returns per acre is an important indicator of profitability of the farming operation as a whole.
3. All factors considered in the profitability of crop enterprises must be considered in relationship to each other.
4.
5.

B. Objective

To determine the most profitable selection and management of machinery, equipment, and facilities.

C. Motivation

Ask the class members to list five items of machinery, buildings, and equipment or combination of the three which they have on their farm which they could farm without (do not consider changing enterprises).

After the lists are complete, ask some of the members to share items to be written on the chalkboard. Most of these items will probably be labor saving devices that have recently been added to the business. Point out that this illustrates the principle of resource substitution. If the five items were eliminated, a change would arise in the amount of labor, skill, etc., needed.

This lesson may be one of the most important and most difficult; it can have a large effect on total costs and costs per unit. Each farm business needs to make an individual decision, because the amount of capital, land, labor, and management available varies among farms.

D. Key Points

1. *How do I determine my present total investment and total costs per tillable acre?*
2. *What kinds of costs occur in owning machinery/buildings?*
3. *What alternatives are there to ownership and how do they compare?*
4. *What computer programs are available to help in this area?*

E. Introduction of Information

Point out that machinery, equipment, and buildings are "support" investments and that their costs must be recovered by individual enterprises such as corn, wheat, hogs, cattle, etc. If we can reduce some of these costs and maintain optimum production, the business will operate at its most efficient level.

1. *How do I determine my present total investment and total costs per tillable acre?*

   Start this key point by using TM-25a, b, and c to illustrate where this information is located on the FBMA printout. There are three different types of farms on TM-25 a, b, and c (0-499 acre livestock; 400-550 acre grain; and 0-300 acre dairy). (Caution the class that the number of farms in each group is indicated by 1 and that the value of this data for comparison is limited if the number is under 35.) Investment in machinery/buildings is at 2; number of tillable acres at 3; and costs per tillable acre at 4.

   a. Using TM-25a, b, and c, illustrate how to derive investment per tillable acre. As an example, the 0-499 acre livestock farm has a beginning machinery investment of $5,554 and ending of $9,459 with 115 tillable acres. (One other point: investment is based on depreciated book value.) ($5,554 + $9,459) ÷ 2 = $7,507 average investment for the year. $7,507 ÷ 115 = $65.28 investment per tillable acre. The grain farm has average investment per tillable acre of $89.84 [($28,854 + $76,724) ÷ 2 = $38,362] + $38,362 ÷ 427 = $89.84. The dairy farm has an average machinery investment per tillable acre for the operator of $73.63. If the enrollees have their printouts, let them calculate the investment per tillable acre of machinery and/or buildings for their own situation.

b. Using the same examples, demonstrate how to determine machinery and/or building costs per tillable acre.

(1) 4 has the costs for the current year calculated on a tillable acre basis for the individual farm, the average farm in that group, and the difference. Note the difference in costs per tillable acre for the three farms on the transparencies ($55.03 to $140.51) as well as the averages. Note also that depreciation is the largest cost in all examples in the machinery cost total. Let enrollees compare their figures at this point.

(2) Show TM-26 to illustrate relative increase in machinery costs compared to other inputs for an eight year period.

2. *What kinds of costs occur in owning machinery/buildings?*

Start the discussion of this key point by identifying a machine common to the group such as a large round hay baler. Ask the enrollees to identify "costs" associated with owning a baler and list these on the board. Examples might be: depreciation, repairs, twine, labor, interest, insurance, taxes, tractor use charge, lubrication, and shelter. Next, have the group put these in two columns headed "Fixed" and Variable." The columns should appear as follows:

Fixed[1] (ownership)	Variable[2] (operating)
Depreciation	Repairs
Interest on Investment	Twine
Insurance	Labor
Taxes	Tractor Use Charge
Shelter	Lubrication
	Fuel

[1] Fixed costs are those which remain about the same regardless of the amount of use.

[2] Variable costs vary with the amount of use.

a. Identify the fixed and variable costs for the machine selected above using HO-62 (TM-27). As an example, the baler mentioned above might cost $8,000, last 10 years, have -0- salvage, and bale 750 bales per year, 15 bales per hour. The figures would appear as follows.

(1) $\frac{8000 - 0}{10} = 800$

(2) $\frac{8000 + 0}{2} = 4000 \times .15 = 600$

(3) $8000 \times .025 = 200$

(4) $T = 1600$

(5) $R + M$
$.003 \times 8000 = .16 \qquad .16 \div 15 = .01$

(6) $\frac{10{,}000 \times .15}{700} = 2.14 \qquad 2.14 \div 15 = .14$

(7) $\frac{.65 \times 1.20}{3 \text{ bales/acre}} = .26$

(8) $.26 \times .15 = .04$

(9) Estimate/bale = .25

(10) $\$6.00 \div 15 = .40$

(11) $.01 + .14 + .26 + .04 + .25 + .40 = 1.10$

(12) $750 \times 1.10 = 825$

(13) $1600 + 825 = 2{,}425$

(14) $2425 \div 750 = 3.23$

Then, re-figure with 150 bales per year (item 14 is about $11.77).

b. Determine the breakeven point using the following formula:

$$\frac{\text{Fixed Costs Per Year}}{\text{Custom Rate - Operating Costs}} = \text{Number of Units Needed to Break Even on Owning a Machine}$$

Using the above example with a custom rate of $6.00/bale (UMC Guide 302, 1980), the formula works as follows:

$$\frac{1600}{6 - 1.10} = 327 \text{ bales to breakeven}$$

c. Show the effect of Fixed:Variable Costs by asking what the minimum price a farmer that already owns a baler as in the example above would agree to do custom work is. (Since labor is included at $6.00/hour in the example, if the owner of the baler were willing to work for that figure, the minimum charge would be $1.10 per bale; however, $3.23 would be needed to cover all costs at this volume.)

d. At this point, work an example on a building such as a hog finishing floor with fixed costs of $20/pig capacity per year. Use current variable costs. In early 1981, it was probably not possible to cover total costs, but feeder pigs usually sell low enough to cover variable costs. This has caused many farmers to continue to operate to minimize losses.

e. Compare feasibility on the baler. (Many farmers buy machinery to take advantage of investment credit and depreciation for income tax savings, but overlook that the second year of payments may not be covered.) The following example illustrates the point: Baler Cost--$8,000; Life--10 years; Depreciation Method--DDB; Interest--15%; Loan--5 years; Marginal Tax Bracket--35%; 300 bales/year; $6.00/bale custom charge.

Year	Charge Saved (1)	Savings (2)	Op. Costs (no labor or int.)	Prin. Pay (4)	Int. Pay (5)	Cash Flow Bal* (6)
1	1800	1808	223	1600	1200	+585
2	1800	358	223	1600	900	-625
3						

*(Cols. 1 + 2) - (Cols. 3 + 4 + 5) = Col. 6

The tax savings in Year 1 made the cash flow positive; however, after the investment credit and extra depreciation are used, the cash flow becomes negative. Also, if no tax is owed (low income year or investment credit carry over), this purchase has no advantage.

3. *What alternatives are there to ownership and how do they compare?*

Start this discussion by listing on the board examples the enrollees can think of such as hire custom work, leasing, exchange work with neighbors, etc.

a. Hire custom work. If the custom rate is less than item 14 (total costs per unit) on HO-62, then it would be cheaper to hire it done. Three additional factors need to be considered:

(1) Timeliness. The following table illustrates the importance:

Operation	% loss of yield per acre per day of delay
Tillage (not delay plant)	0.1
Tillage (delay plant)	0.5
Planting	1.0
Cultivation	0.3
Harvest	0.5

(2) Quality of work. If the custom operator loses an extra 3 bushels of corn/acre at $3.00/bushel due to poor operation in picking corn, then $9.00/acre needs to be added to the custom charge to make a valid comparison.

(3) Other. Let the group discuss other factors. Frequently, improved planning and scheduling with the custom operator will overcome many of the disadvantages.

b. Lease. Discuss HO-63 and work an example to illustrate how to compare this alternative. Leasing is usually not a profitable choice.

c. Exchange work with neighbors. These other alternatives vary between communities. Different individuals can explain arrangements they have which may provide some alternatives to other individuals.

4. *What computer programs are available to help in this area?*

a. Remote Computer Planning at the University of Missouri-Columbia has a program titled "Machine" which provides the type of data needed to make a decision on a machine. HO-64 is an input form that is used for the Machine program. HO-65 and HO-66 use the baler example from key point 2 to illustrate how to complete the input form and the printout.

(1) HO-65, "Machine" Input. Explain the assumptions used in inputing the data:

Bales per acre = 3
Bales per hour = 10
Bales per year = 750
Cost of baler = $8000
Life of baler = 10 years
Custom rate = $6/bale or $18/acre

(2) HO-66, "Machine" Printout. The cost/acre is for 3 bales per acre or in Year 1, $7.92/bale. In Year 10, the cost per bale is $3.26. The number of bales to breakeven in year 1 at 3 bales per acre is 116. This method also enables a farmer to determine the year in which to trade for lowest cost. (It has not been reached in 10 years.)

b. The Computerized Management Network from Virginia Polytechnic Institute has a program titled "Hire" which makes similar comparisons. HO-67 is the input form and HO-9 continued contains supplementary data to use on the input form while HO-68 and HO-69 are examples of the printout.

(1) HO-67, "Hire" Input. Most of this information is self-explanatory with the supplementary data sheet, except item 14 should be expressed in units per hour--in this example, bales per hour.

(2) HO-68, "Hire" Printout. This example was for 300 bales per year. Note that the cost per bale on a present value basis is $3.34 while the cost per bale on a present value basis for custom hired is $1.96.

(3) HO-69, "Hire" Printout. This example was for 750 bales per year. Note that the cost per bale on a present value basis is $1.55 while the custom cost is $1.96.

If a remote computer terminal is available locally, examples for some of the enrollees could be run. (See on-farm instruction section.) (Teachers are referred to UMC Guides 1200-1206 for procedures used to determine size of machines. Information concerning using weather data in planning the purchase of machinery is also included in these materials.)

F. Group Discussion

Initiate a discussion concerning selecting machinery and/or buildings to maximize income with good feasibility. Factors that must be considered include timeliness, cash flow conseqences, alternatives, etc. Use HO-70 (Quiz) to stimulate discussion for leading into the conclusions.

G. Conclusions

Conclusions which may be reached include:

1. Individuals should analyze their present investment and costs per tillable acre and determine if these are "in line" with the returns.
2. Fixed and variable costs are both present in analysis of investments in machines and/or buildings.
3. It is more profitable to operate than not to operate as long as variable costs are covered.
4. Custom hiring is an alternative to ownership in many situations.
5. Tax consequences should be considered in an investment.
6. Feasibility (cash flow) of an investment needs to be considered.
7.
8.

Announcements

Social

On-the-Farm Instruction

Suggest to enrollees that on the visit this month you will review their investment and costs per tillable acre and compare with similar farms. Also, offer to work through some examples with them on the purchase of machinery and/or buildings they may be considering. If a remote computer terminal is available, it might be taken to the farm and a program run that fits the farmer's situation. If a terminal is not available locally, the input forms can be completed at the farm and run by either mailing to Agricultural Education, 435 General Classroom Building, University of Missouri-Columbia, or by taking to the Extension Office if a terminal is available there.

Materials

Instructor

- TM-25, Farm Returns and Costs for Three Sample Farms (computer printout)
- TM-26, Trends in Selected Operating Costs Per Tillable Acre for 400 Acre Grain Farms (Central Illinois)
- TM-27, Costs of Owning a Machine (combined with HO-62)
- Remote computer terminal (optional for on-the-farm instruction)

Student

- HO-62, Costs of Owning a Machine (combined with TM-27)
- HO-63, Leasing Versus Buying
- HO-64, Input Form for MACHINE (blank)
- HO-65, Input Form for MACHINE (example entered)
- HO-66, Printout for MACHINE Example
- HO-67, Input Form for Buy Versus Custom Hire (blank)
- HO-68, Input Form and Printout for Buy Versus Custom Hire (example 1 entered)
- HO-69, Input Form and Printout for Buy Versus Custom Hire (example 2 entered)
- HO-70, Quiz--Machinery, Equipment and Buildings
- Missouri Farm Business Analysis Record Book

Name:
Type: LIVESTOCK
Soil Rating
No. In Average 15

1

Acres: 000-499
Feed-% Fed Range: 40+
Feed-% Fed Average: 150
Feed-% Fed My Farm: 134

County:
Farm:
Fieldman

299
TM-25a
FBMA II

FARM RETURNS AND COSTS	Months	Av. Months	TOTAL FARM	PER TILLABLE ACRE MY FARM	AV FARM	DIFF
FARM RETURNS						
CROP RETURNS			13704	119,17	122,56	3,39-
LVSTK RETURN ABOVE FEED			2182	18,97	50,60	31,63-
CUSTOM WORK					6,17	6,17-
OTHER FARM RECEIPTS			370	3,22	24,95	21,73-
GROSS VALUE OF FARM PRODUCTION			16256	141,36	204,28	62,92-
FARM COSTS						
SOIL FERTILITY			3110	27,04	12,77	14,27
PESTICIDES					5,52	5,52-
SEED			816	7,10	5,40	1,70
CROP TOTAL			3926	34,14	23,69	10,45
UTILITIES			479	4,17	3,92	,25
MACHINERY REPAIRS			473	4,11	12,61	8,50-
MACHINE HIRE			1423	12,37	9,51	2,86
FUEL & OIL			1944	16,90	17,70	,80-
AUTO-FARM SHARE					1,47	1,47-
MACHINERY DEPRECIATION			2009	17,47	27,08	9,61-
POWER & EQUIPMENT TOTAL			6328	55,03	72,29	17,26-
DRYING AND STORAGE					,06	,06-
BUILDING REPAIR			653	5,68	5,65	,03
BUILDING DEPRECIATION			1363	11,85	11,44	,41
BUILDING TOTAL			2016	17,53	17,15	,38
LABOR UNPAID		8,1			44,03	44,03-
LABOR PAID	4,0	2,0	221	1,92	9,06	7,14-
LABOR TOTAL	4,0	10,1	221	1,92	53,08	51,16-
LIVESTOCK SUPPLIES & SERVICES			417	3,63	16,84	13,21-
INSURANCE			641	5,57	5,16	,41
TAXES			505	4,39	7,31	2,92-
MISCELLANEOUS			109	,95	18,16	17,21-
INTEREST CHG. LAND 4,0 %. OTHER 11,0%			12751	110,88	112,01	1,13-
OTHER COSTS TOTAL			14423	125,42	159,48	34,06-
TOTAL NON-FEED COSTS			26914	234,03	325,69	91,66-
GAIN OR LOSS ON MCHY & BLDG. SOLD			147	1,28	2,79	1,51-
MANAGEMENT RETURNS			10511-	91,40-	118,62-	27,22
PROD. PER $1. NON FEED COST				,60	,63	
FARM PRODUCTION PER MAN YEAR				48768	37912	
FARM PROD. PER $1,000 CAPITAL				73	110	
LIVESTOCK VOLUME CWT-PORK				309	663	
VALUE OF FEED FED				18299	28733	

4

% OF PRODUCTION	DOLLARS	MY %	AV %	LAND INFORMATION	MY	AV
TOTAL OPERATING EXPENSE	16912	116,5	79,2	TOTAL ACRES	200	223
DEPRECIATION	3372	23,2	18,9	TILLABLE ACRES	115	156
FARM OPERATING INCOME	5778-	39,8-	1,8	TOTAL CROP ACRES	115	164
GROSS VALUE OF PROD	14506	100,0	100,0	SOIL RATING		

3

INVESTMENT	OPERATOR Beg. - Yr.	OPERATOR End - Yr.	LANDLORD Beg. - Yr.	LANDLORD End - Yr.	TOTAL FARM Beg. Yr.	TOTAL FARM End - Yr.
CROPS AND FEED	10480	9393			10480	9393
LIVESTOCK	31363	26883			31363	26883
MACHINERY	5554	9459			5554	9459
BUILDINGS	10395	9032			10395	9032
SOIL FERTILITY						
LAND VALUE (CURRENT)	116000	116000	48000	48000	164000	164000
TOTAL CAP INVESTMENT	173792	170767	48000	48000	221792	218767

2

RATE EARNED ON FARM INVESTMENT % LANDLORD AV ,30- TOT FARM ,22 AV. ,36-
INVESTMENT PER MAN MY FARM 660838 287 AV 344609

Name:
Type: GRAIN
Soil Rating:
① No. In Average. ②

Acres: 0400-0550
Feed-% Fed Range: 0-40
Feed-% Fed Average: 10
Feed-% Fed My Farm: 1

County:
Farm:
Fieldman

301
TM-25b
FBMA II

FARM RETURNS AND COSTS	Months	Av. Months	TOTAL FARM	PER TILLABLE ACRE MY FARM	AV FARM	DIFF
FARM RETURNS:						
CROP RETURNS			119448	279,74	242,84	36,90
LVSTK RETURN ABOVE FEED			6183	14,48	9,05	5,43
CUSTOM WORK					1,78	1,78-
OTHER FARM RECEIPTS			1165	2,73	12,50	9,77-
GROSS VALUE OF FARM PRODUCTION			126796	296,95	266,18	30,77
FARM COSTS:						
SOIL FERTILITY			25399	59,48	45,92	13,56
PESTICIDES			6780	15,88	16,15	,27-
SEED			6302	14,76	13,80	,96
CROP TOTAL			38481	90,12	75,87	14,25
UTILITIES			36	,08	,78	,70-
MACHINERY REPAIRS			10156	23,78	14,34	9,44
MACHINE HIRE			10956	25,66	13,29	12,37
FUEL & OIL			10898	25,52	21,30	4,22
AUTO-FARM SHARE					,43	,43-
MACHINERY DEPRECIATION			27952	65,46	48,43	17,03
POWER & EQUIPMENT TOTAL			59998	140,51	98,56	41,95
④ DRYING AND STORAGE						
BUILDING REPAIR					1,64	1,64-
BUILDING DEPRECIATION					5,16	5,16-
BUILDING TOTAL					6,80	6,80-
LABOR UNPAID	18,0	15,8	15300	35,83	32,10	3,73
LABOR PAID	5,0	2,8	15939	37,33	19,42	17,91
LABOR TOTAL	23,0	18,5	31239	73,16	51,53	21,63
LIVESTOCK SUPPLIES & SERVICES					1,98	1,98-
INSURANCE			555	1,30	2,44	1,14-
TAXES			605	1,42	5,32	3,90-
MISCELLANEOUS			640	1,50	2,52	1,02-
INTEREST CHG, LAND 4,0 %, OTHER 11,0%			40219	94,19	86,76	7,43
OTHER COSTS TOTAL			42019	98,41	99,02	,61-
TOTAL NON-FEED COSTS			171737	402,19	331,78	70,41
GAIN OR LOSS ON MCHY & BLDG. SOLD			2673	6,26	3,21	3,05
MANAGEMENT RETURNS			42268-	98,99-	62,40-	36,59-
PROD. PER $1. NON-FEED COST				,74	,80	
FARM PRODUCTION PER MAN YEAR				66154	71997	
FARM PROD. PER $1,000 CAPITAL				148	159	
LIVESTOCK VOLUME						
VALUE OF FEED FED				717	10616	

% OF PRODUCTION	DOLLARS	MY %	AV %
TOTAL OPERATING EXPENSE	102002	80,4	73,2
DEPRECIATION	27952	22,0	20,1
FARM OPERATING INCOME	3158-	2,4-	6,6
GROSS VALUE OF PROD	126796	100,0	100,0

LAND INFORMATION	MY	AV
TOTAL ACRES	427	441
TILLABLE ACRES	427	417
TOTAL CROP ACRES	401	444
SOIL RATING	1	1

③

INVESTMENT	OPERATOR Beg.-Yr.	End-Yr.	LANDLORD Beg.-Yr.	End-Yr.	TOTAL FARM Beg. Yr.	End-Yr.
CROPS AND FEED	27639	22883			27639	22883
LIVESTOCK	16027	150			16027	150
② MACHINERY	28854	76724			28854	76724
BUILDINGS						
SOIL FERTILITY						
LAND VALUE (CURRENT)			768600	768600	768600	768600
TOTAL CAP INVESTMENT	72520	99757	768600	768600	841120	868357

288

RATE EARNED ON FARM INVESTMENT % LANDLORD 4,27 AV. 5,01 TOT FARM ,24- AV. 1,86
INVESTMENT PER MAN MY FARM 445950 AV. 451291

303
TM-25c
FBMA II

Name:
Type: DAIRY
Soil Rating:
No. In Average: ①

Acres: 0000=0300
Feed-% Fed Range: 40
Feed-% Fed Average: 133
Feed-% Fed My Farm: 133

County:
Farm:
Fieldma

①

FARM RETURNS AND COSTS	TOTAL FARM	PER TILLABLE ACRE MY FARM	PER TILLABLE ACRE AV FARM	DIFF
FARM RETURNS:				
CROP RETURNS	26572	151,84	151,84	
LVSTK RETURN ABOVE FEED	58663	335,22	335,22	
CUSTOM WORK	308	1,76	1,76	
OTHER FARM RECEIPTS	257	1,47	1,47	
GROSS VALUE OF FARM PRODUCTION	85800	490,29	490,29	
FARM COSTS:				
SOIL FERTILITY	2660	15,20	15,20	
PESTICIDES	994	5,68	5,68	
SEED	1472	8,41	8,41	
CROP TOTAL	5126	29,29	29,29	
UTILITIES	1431	8,18	8,18	
MACHINERY REPAIRS	1826	10,43	10,43	
MACHINE HIRE	1627	9,30	9,30	
FUEL & OIL	3060	17,49	17,49	
AUTO-FARM SHARE	252	1,44	1,44	
MACHINERY DEPRECIATION	7726	44,15	44,15	
POWER & EQUIPMENT TOTAL	15922	90,98	90,98	
DRYING AND STORAGE				
BUILDING REPAIR	111	,63	,63	
BUILDING DEPRECIATION	2561	14,63	14,63	
BUILDING TOTAL	2672	15,27	15,27	
Months / Av. Months				
LABOR UNPAID 24,0 / 24,0	20400	116,57	116,57	
LABOR PAID ,5 / ,5	454	2,59	2,59	
LABOR TOTAL 24,5 / 24,5	20854	119,17	119,17	
LIVESTOCK SUPPLIES & SERVICES	135	,77	,77	
INSURANCE	322	1,84	1,84	
TAXES	509	2,91	2,91	
MISCELLANEOUS	1274	7,28	7,28	
INTEREST CHG, LAND 4,0 %, OTHER 11,0%	14509	82,91	82,91	
OTHER COSTS, TOTAL	16749	95,71	95,71	
TOTAL NON-FEED COSTS	61323	350,42	350,42	
GAIN OR LOSS ON MCHY & BLDG, SOLD				
MANAGEMENT RETURNS	24477	139,87	139,87	
PROD. PER $1, NON-FEED COST		1,40	1,40	
FARM PRODUCTION PER MAN YEAR		42024	42024	
FARM PROD. PER $1,000 CAPITAL		406	406	
LIVESTOCK VOLUME NO, OF COWS		45,0	45,0	
VALUE OF FEED FED		35379	35379	

④

% OF PRODUCTION	DOLLARS	MY %	AV %	LAND INFORMATION	MY	AV
TOTAL OPERATING EXPENSE	16127	18,8	18,7	TOTAL ACRES	240	240
DEPRECIATION	10287	11,9	11,9	TILLABLE ACRES	175	175
FARM OPERATING INCOME	59386	69,2	69,2	TOTAL CROP ACRES	228	228
GROSS VALUE OF PROD	85800	100,0	100,0	SOIL RATING	1	1

③

INVESTMENT	OPERATOR Beg.-Yr.	OPERATOR End-Yr.	LANDLORD Beg.-Yr.	LANDLORD End-Yr.	TOTAL FARM Beg. Yr.	TOTAL FARM End-Yr.
CROPS AND FEED	16405	13756			16405	13756
LIVESTOCK	23295	23265			23295	23265
MACHINERY	28943	25770			28943	25770
BUILDINGS	21984	19808			21984	19808
SOIL FERTILITY						
LAND VALUE (CURRENT)	124550	124550			124550	124550
TOTAL CAP INVESTMENT	215177	207149			215177	207149

②

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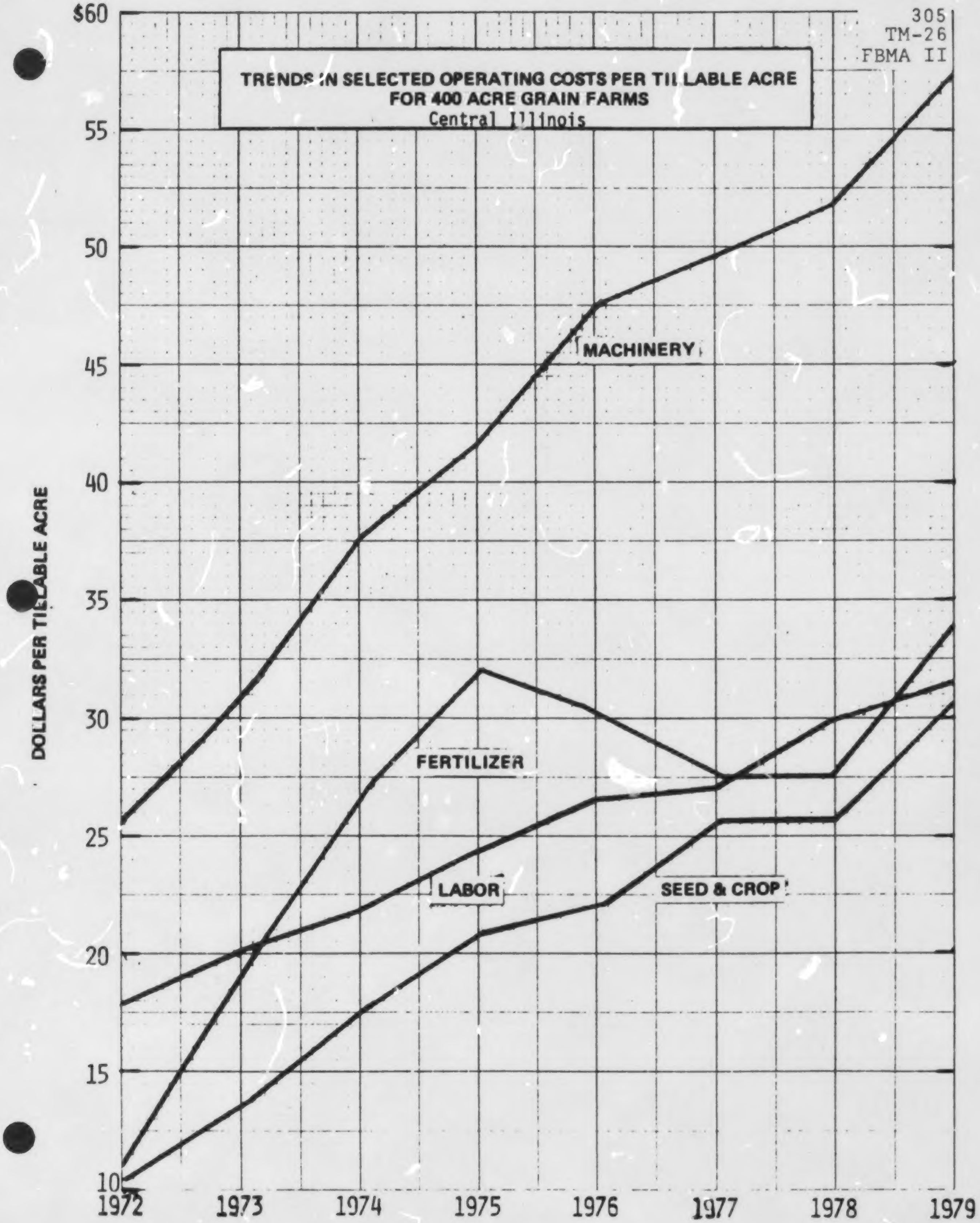
FBMA II



COSTS OF OWNING A MACHINE

Cost of Machine________________________ Years to Keep________

I. Fixed (Ownership Costs):

1. Depreciation $________

$$\frac{\text{original cost - salvage value}}{\text{years life}} = \text{Dep.}$$

2. Interest on investment $________

$$\frac{\text{original cost + salvage value}}{2} \times \text{Int. Rate}$$

3. Insurance, Taxes, Shelter $________

(usually 2.5% of original cost)

4. Total Fixed Costs/Year (1 + 2 + 3) $________

II. Variable (Operating Costs) (per acre, bale, etc.):

5. Repairs and Maintenance $________/unit

(per hour repair and maintenance costs as % of list price)

Tractor	.00012
Tillage Equipment	.0006
Harvesting Equipment	.0003
Planting Equipment	.00075

Cost per hour ÷ units per hour = costs per unit

6. Tractor Use Charge $________/unit

(omit if machine is self-propelled)

purchase price of tractor x .15 =
__________ ÷ hours per year = cost per hour
cost per hour ÷ units per hour = cost/unit

7. Fuel $________/unit

Average Consumption/Acre

Plowing	2.50	Drilling	.50
Disc	.65	Planting	.44

Cultivating	.48	Combining	1.45
Mowing	.62	Corn Picking	1.53
Raking	.27		

*Multiply by .72 for diesel fuel.

_____ fuel con./acre x ____ costs per gal = costs/acre
costs per acre ÷ units per acre = costs per unit

8. Lubrication $_________/unit

figure .15 of fuel costs

9. Supplies (as twine) $_________/unit

10. Labor $_________/unit

cost per hour ÷ units per hour =
costs per unit

11. Total Variable Costs Per Unit (5 + 6 + 7 + 8 + 9 + 10) $_________

12. Estimated Units Per Year x _____ Costs Per Unit = Total Variable Cost Per Year $_________

13. Total Costs Per Year (4 + 12) $_________

14. Total Costs Per Unit (13 ÷ units/year) $_________

LEASING VERSUS BUYING

Introduction

As machinery costs have increased, farmers have considered alternatives to ownership of machinery and equipment. Many machinery and equipment companies and/or dealers have leasing plans available and are promoting these among their customers. The effect of income taxes, investment credit, etc., as well as availability of credit, interest costs, and the farmer's cash flow position all influence the decision as to which route will be an advantage.

The following procedure should provide a decision making process for the farmer and instructor to use in arriving at the best answer.

General Information

I. Some definitions that are applicable:

   A. Lessee--user of the equipment.

   B. Lessor--owner of the equipment.

   C. Operating lease--an open end lease with no terms limitations. Lessor bears all the costs of ownership including maintenance, property taxes, insurance, etc.

   D. Financial lease--binds the lessee and lessor to a specific time in the contract (option to purchase available).

   E. Direct lease--lessor buys the equipment and then leases it to the lessee. Lessee never gets title to the equipment.

II. Principal leasing advantages:

   A. No large down payment required.

   B. Frees working capital.

   C. Provides another source of credit.

   D. May conserve bank lines of credit.

   E. Permits taking advantage of latest improvements in new equipment.

F. Doesn't ordinarily have restrictive convenants (property for security, etc.).

G. Tax deductible.

III. Principal leasing disadvantages:

A. Does not allow lessee to build up equity in machinery.

B. Costs may be higher.

C. Scheduling problems may arise.

D. Condition of equipment may be a problem.

E. No ownership prestige.

F. Lose advantage of "fast" depreciation.

Making the Decision

The following worksheet provides a method of comparing the alternatives. Instructions for each column are on the back side of the worksheet. The information needed prior to making the computations is at the top of the worksheet and would be secured from the lessor and/or dealer.

Examples of three different length lease problems are on the following pages. These are actual examples in 1976 and give the type information needed and the procedure used in making the decision.

Column simplified

Column 1. Year of life--assuming terms of loan (life) same as lease life--of asset.

2. Total payment calculated on amortization table attached. expected life (10 years - 8%) or factor .1490 .1490 x 22,000 (purchase price) = $3278 or total payment amortized

3. Interest = Total RV x Rate of Interest or first year = 22,000 x .08 or $1760

4. Principle 3278 - 1760 = 1518 or principle payment 22,000 - 1518 = $20,482 = Remaining Principle Balance

5. Remaining Principle Balance x Interest Rate = Interest for second year or 20,482 x .08 = $1639

6. Maintenance Cash* = Cost of Machine x 1.5% or 22,000 x 1.55 = $3.30 annual cost

Column Ref: MU Guide 1205--more typically this cost may run 5% to 6% of purchase price or more depending on the machine, etc.

7. Depreciation--dependent on method used.

8 Tax Deductible Expense--Interest + Maintenance Cash + Depreciation Columns 3 + 6 + 7

9. Tax Savings
Tax deductible expense x tax rate in this case .32

10. Cash Out Flow, if owned
(Total Amortized Payment + Maintenance Cost - Tax Savings)

11. Lease Cost after Tax =
Lease Payment - (tax rate x payment) or
3,300 - (.32 x 3300)
3,300 - (1036)
$2244

12. Cash Flow Advantage of Owning
11-10 or Lease Cost After Tax - Cash Outflow if owned

13. Present Value
Interest rate - (interest rate x tax rate)
.08 - (.08 x .32) = .054
= Net opportunity cost of money
(Use factors in appropriate column from table) for each year of life.

14. Present Value of the Advantage of Owning
PV factor x cash flow advantage of owning
Column 13 x Column 12

Works

LEASE VS. BORROW-AND-BUY CALCULATIONS

1 YEAR	2 TOTAL AMORTIZED PAYMENT	3 INTEREST	4 PRINCIPLE PAYMENT	5 REMAINING BALANCE	6 MAINTENANCE CASH	7 DEPRECIATION	8 (3+6+7) TAX DEDUCTIBLE EXPENSE	9 TAX SAVING	10 (2+6-9) CASH OUTFLOW IF OWNED	11 LEASE COST AFTER TAX	12 CASH FLOW ADVANTAGE OF OWNING	13 PRESENT VALUE FACTOR	14 PRESENT VALUE OF THE ADVANTAGE OF OWNING
1													
2													
3													
4													
5													
6													
8													
9													
10													

_______________ Purchase Price

_______________ Tax Bracket

_______________ Interest Rate

_______________ Life of Asset

_______________ Depreciation Method

_______________ Lease Payment

_______________ Years of lease

Credit: September/October 1975, AGRI FINANCE,
5520 West Touchy Ave., Skokie, IL 60076

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REMOTE COMPUTER PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617

FM 7940 Computer Systems: UMC

MACHINE

MACHINERY COST PROGRAM

1. For each set of machines:

Interest rate .... __________,
Fuel type (gasoline = 1; diesel = 2; LP = 3).... __________,
Fuel price (dollars per gallon) .... __________,
Wage rate (dollars per hour) .... __________,
Number of machines in set (maximum 5) .... __________.

2. For each machine (computer will request information for one machine at a time):

Machine Number	1	2	3	4	5
Machine type (code on back)					
Print level (code on back)					
3. Machine Detail: (Enter A, B, or C)					
A. Cars and Trucks:					
List price (when new)					
Purchase price					
Miles per year					
Miles per gallon					
B. Tractors:					
List price (when new)					
Purchase price					
Horsepower					
Hours per year					
Acres per year					
C. Other Machines:					
List price (when new)					
Purchase price					
Machine width (ft.)					
Speed (mph)					
H.P. required					
Acres per year					
Custom rate					

(4/79)

Machine Types

1 Cars & trucks
2 Tractors
3 Combine
4 Plows
5 Tillage equipment
6 Planting equipment
7 Hay equipment
8 Balers
9 Misc. equipment
10 Your equipment

Print Levels

1 Complete detail printout.
2 Aggregate ownership costs and detailed operating costs.
3 Cost per acre and per hour only.

NOTE: Cars and trucks cannot be mixed with other types of machines in a set of machines.

COOPERATIVE EXTENSION SERVICE **UNIVERSITY OF MISSOURI** **LINCOLN UNIVERSITY**

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◄ REMOTE ◄ COMPUTER ◄ PLANNING

FARM MANAGEMENT Mumford Hall Columbia, Mo. 65201 phone 314-882-2617
FM 7940 Computer Systems: UMC

MACHINE

MACHINERY COST PROGRAM

1. For each set of machines:

Interest rate 15,
Fuel type (gasoline = 1; diesel = 2; LP = 3).... [illegible],
Fuel price (dollars per gallon) .... [illegible],
Wage rate (dollars per hour) .... [illegible],
Number of machines in set (maximum 5) .... 1.

2. For each machine (computer will request information for one machine at a time):

Machine Number	1	2	3	4	5
Machine type (code on back)	[illegible]				
Print level (code on back)	1				
3. Machine Detail: (Enter A, B, or C)					
A. Cars and Trucks:					
List price (when new)					
Purchase price					
Miles per year					
Miles per gallon					
B. Tractors:					
List price (when new)					
Purchase price					
Horsepower					
Hours per year					
Acres per year					
C. Other Machines:					
List price (when new)	[illegible]				
Purchase price	[illegible]				
Machine width (ft.)	[illegible]				
Speed (mph)	[illegible]				
H.P. required	[illegible]				
Acres per year	[illegible]				
Custom rate	[illegible]				

(4/79) 10-2

UNIVERSITY OF MISSOURI, LINCOLN UNIVERSITY, U.S. DEPARTMENT OF AGRICULTURE AND LOCAL UNIVERSITY EXTENSION COUNCILS COOPERATING

Machine Types

1 Cars & trucks
2 Tractors
3 Combine
4 Plows
5 Tillage equipment
6 Planting equipment
7 Hay equipment
8 Balers
9 Misc. equipment
10 Your equipment

Print Levels

1 Complete detail printout.
2 Aggregate ownership costs and detailed operating costs.
3 Cost per acre and per hour only.

NOTE: Cars and trucks cannot be mixed with other types of machines in a set of machines.

```
REMOTE COMPUTER PLANNING                           MACHINERY COST ANALYSIS
AGRICULTURAL ECONOMICS DEPT.                       05/11/81
EXTENSION DIVISION                                 EXAMPLE
UNIVERSITY OF MISSOURI

ANALYSIS FOR BALERS
ACRES/HR= 3.2  HRS/YR=  77  AVERAGE COSTS FOR YEARS OF OWNERSHIP SHOWN ARE:
 YEARS OWNED=             1          2          3          4          5
REMAINING VALUE     3964.80    3508.85    3105.33    2748.22    2432.17
DEPRECIATION        4035.20    2245.57    1631.56    1312.95    1113.56
INTEREST             897.36     863.16     832.90     806.12     782.41
TAXES & INS          149.56     143.86     138.82     134.35     130.40
OWNERSHP SUBTOT     5082.12    3252.60    2603.27    2253.41    2026.38

REPAIRS               98.47     121.23     136.91     149.25     159.59
FUEL & LUBE          253.96     253.96     253.96     253.96     253.96
LABOR                507.93     507.93     507.93     507.93     507.93
TOTAL COST          5942.47    4135.72    3502.08    3164.56    2947.86

COST/ACRE             23.77      16.54      14.01      12.66      11.79
COST/HOUR             77.22      53.74      45.51      41.12      38.30
BREAK-EVEN ACRS      349.08     224.82     180.72     156.97     141.57
COST/ACRE, COST/HOUR AND BREAK-EVEN ACRES DOES NOT INCLUDE OWNERSHIP COSTS
OR REPAIR COSTS OF SUPPLEMENTAL POWER UNIT.

AT    77 HRS ANNUAL USE, MECHANICAL LIFE OF   2000 HRS REACHED IN  25.99 YRS


ENTER ONE OF THE FOLLOWING:
  1 TO PRINT MORE YEARS
  2 TO ENTER NEW DATA
  3 TO END PROGRAM
:1
```

PRINTOUT FOR MACHINE EXAMPLE

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FBMA II

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REMOTE COMPUTER PLANNING                   MACHINERY COST ANALYSIS
AGRICULTURAL ECONOMICS DEPT.               05/11/81
EXTENSION DIVISION                         EXAMPLE
UNIVERSITY OF MISSOURI

ANALYSIS FOR BALERS
ACRES/HR= 3.2  HRS/YR=  77  AVERAGE COSTS FOR YEARS OF OWNERSHIP SHOWN ARE:
 YEARS OWNED=              6           7           8           9          10
 MACHINE AGE=              6           7           8           9          10
REMAINING VALUE      2152.47     1904.94     1685.87     1492.00     1320.42
DEPRECIATION          974.59      870.72      789.27      723.11      667.96
INTEREST              761.43      742.87      726.44      711.90      699.03
TAXES & INS           126.91      123.81      121.07      118.65      116.51
OWNERSHP SUBTOT      1862.93     1737.40     1636.78     1553.66     1483.49

REPAIRS               168.56      176.54      183.75      190.36      196.47
FUEL & LUBE           253.96      253.96      253.96      253.96      253.96
LABOR                 507.93      507.93      507.93      507.93      507.93
TOTAL COST           2793.36     2675.83     2582.42     2505.91     2441.86

COST/ACRE              11.17       10.70       10.33       10.02        9.77
COST/HOUR              36.30       34.77       33.56       32.56       31.73
BREAK-EVEN ACRS       130.47      121.95      115.12      109.48      104.72
COST/ACRE, COST/HOUR AND BREAK-EVEN ACRES DOES NOT INCLUDE OWNERSHIP COSTS
OR REPAIR COSTS OF SUPPLEMENTAL POWER UNIT.

AT [redacted]2000 HRS REACHED IN  25.99 YRS
```

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FBMA II

BUY VERSUS CUSTOM HIRE

WHAT IS YOUR UNIT? (ACRES, HOURS, MILES, ETC.) ________
COMPLETE COLUMN TWO WHEN A MACHINE IS TO BE USED FOR TWO CROPS. FOR EXAMPLE, A COMBINE MIGHT BE USED FOR SMALL GRAIN AND CORN.

1. MONTH OF PURCHASE IF PURCHASED (1-12) __________

2. COST OF PURCHASED MACHINE WITHOUT TRADE-IN. $__________

3. ESTIMATED SALVAGE VALUE OF MACHINE AT SALE OR TRADE. $__________

4. ESTIMATED YEARS BEFORE TRADE OR SALE. __________

5. IF USED MACHINERY, ENTER 1.
IF LIVESTOCK, ENTER 2.
IF IMPROVEMENTS, ENTER 3; OTHER CASES ENTER 0. __________

6. ESTIMATED UNITS (ACRES, HOURS, ETC.) OF USE/YR. _____, _____

7. PER HOUR COST OF FUEL FOR MACHINE AND ASSOCIATED EQUIPMENT*. $________________

8. PER HOUR COST OF LABOR. $________________

9. CUSTOM (OR LEASE) RATE PER UNIT. $__________, __________

10. ADDITIONAL GAIN OR LOSS PER UNIT ASSOCIATED WITH CUSTOM HIRE OR LEASE. DESIGNATE LOSS WITH A MINUS. $________, ________

11. INTEREST RATE (A) BORROWING MONEY (B) RATE YOU FEEL YOU CAN EARN. __________, __________

12. ESTIMATED HOURS OF LIFE FOR THE MACHINE*. __________

13. TOTAL REPAIR COST IN % OF NEW COST*. __________

14. ESTIMATED PERFORMANCE - ACRES PER HOUR*. __________, __________

15. IF YOU EXPECT TO DO CUSTOM WORK, ENTER UNITS (ACRES OR HOURS) OF WORK DONE FOR OTHERS. __________, __________

16. PUT "1" IN COLUMN 1, IF ITEM IS ELIGIBLE FOR INVESTMENT CREDIT; 0 IF NOT; PUT THE TOTAL OF CASH PAID FOR THE ITEM PLUS THE UNDEPRECIATED BALANCE OF ANY ITEM TRADED IN COLUMN 2.
__________, __________

17. EXPECTED TAX BRACKETS. GIVE YOUR ESTIMATED BRACKET FOR ONE YEAR MORE THAN THE YEARS THE MACHINE IS TO BE USED IF YOU PLAN TO PURCHASE THE MACHINE OTHER THAN IN JANUARY.

YEAR	RATE	YEAR	RATE	YEAR	RATE
1	----	6	----	11	----
2	----	7	----	12	----
3	----	8	----	13	----
4	----	9	----	14	----
5	----	10	----	15	----

TYPE 999 WHEN FINISHED.

*SEE SUPPLEMENTARY INFORMATION SHEET FOR SUGGESTED FIGURES.

SUGGESTED COST AND PERFORMANCE FIGURES

EQUIPMENT TYPE	EST. FUEL COST/HR.	EST. HRS. OF LIFE	REPRS. AS % OF COST	ACRES PER HR.
POWER				
GAS TRACTOR, 34 H.P.	1.25	12000	80	
GAS TRACTOR, 57 H.P.	2.09	12000	80	
DIESEL TRACTOR, 35 H.P.	.66	12000	80	
DIESEL TRACTOR, 51 H.P.	.96	12000	80	
DIESEL TRACTOR, 75 H.P.	1.73	12000	80	
DIESEL TRACTOR, 98 H.P.	2.26	12000	80	
DIESEL TRACTOR, 120H.P.	2.65	12000	80	
TILLAGE				
PLOW, 3-16	.96	2000	60	1.55
PLOW. 4-16	1.73	2000	60	2.04
PLOW, 5-16	2.26	2000	60	2.52
PLOW, 7-16	2.65	2000	60	3.01
DISK HARROW, 10'TNDM	2.09	2000	60	3.14
DISK HARROW, 14'TNDM	2.26	2000	60	6.76
DISK HARROW, 21'TNDM	2.65	2000	60	10.14
CHISEL PLOW, 11'	2.26	2000	60	4.37
SUBSOIL BED-4	2.26	2000	60	4.42
SUBSOIL BED-2	1.84	2000	60	2.04
STALK SHREDDER, 6'	1.73	2000	60	2.83
PLANTING				
PLANTER, 4-ROW	.96	1200	50	4.88
PLANTER, 6-ROW	1.73	1200	50	7.31
DRILL GRAIN,11FT.,W/FRT	1.73	1000	50	3.64
DRILL GRAIN,14FT,W/FRT	2.26	1000	50	5.28
PACKER-SEEDER, 10-FT	.96	1200	50	3.16
CULTIVATION				
ROTARY HOE, 4-ROW	1.73	2500	40	11.00
CULTIVATOR, 2-ROW	.96	2000	40	2.78
CULTIVATOR, 4-ROW	1.73	2000	40	4.20
CULTIVATOR, 6-ROW	2.26	2000	40	6.30
HARVESTING				
COMBINE GRAIN, 13-FT	2.57	2000	90	3.17
COMBINE, RAIN, 16-FT	3.16	2000	90	3.90
COMBINE, CORN	2.37	2000	90	2.92
CORN PICKER-SHLLR,2-ROW	2.26	2000	90	1.38
FORAGE HRVSTR, S.P. 6'	1.19	2000	90	1.46
FORAGE HRVSTR, PTD	2.26	1500	90	1.75
COTTON PCKR-HD	1.19	2500	90	1.39
HAYING				
MOWER, 6'	.96	2000	60	2.83
RAKE, SIDE DLVRY	.96	2500	60	3.44
CONDITIONER,ROLLER	.96	2500	80	3.44
CONDITIONER, FLAIL	2.26	2000	80	1.25
BALER,PTO,FLD PCKUP	1.73	2000	80	2.-5
BALER,MOTOR,FLD PCKUP	3.95	2500	80	2.-5
SP SWATHER, 10'	1.35	1500	80	5.04

(EXAMPLE 1)

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HO-68
FBMA II

BUY VERSUS CUSTOM HIRE

WHAT IS YOUR UNIT? (ACRES, HOURS, MILES, ETC.) BALES_
COMPLETE COLUMN TWO WHEN A MACHINE IS TO BE USED FOR TWO CROPS. FOR EXAMPLE, A COMBINE MIGHT BE USED FOR SMALL GRAIN AND CORN.

1. MONTH OF PURCHASE IF PURCHASED (1-12) __1_______

2. COST OF PURCHASED MACHINE WITHOUT TRADE-IN. $_8000___

3. ESTIMATED SALVAGE VALUE OF MACHINE AT SALE OR TRADE. $__0_____

4. ESTIMATED YEARS BEFORE TRADE OR SALE. ___10______

5. IF USED MACHINERY, ENTER 1.
IF LIVESTOCK, ENTER 2.
IF IMPROVEMENTS, ENTER 3; OTHER CASES ENTER 0. ___0_____

6. ESTIMATED UNITS (ACRES, HOURS, ETC.) OF USE/YR. 300_, _____

7. PER HOUR COST OF FUEL FOR MACHINE AND ASSOCIATED EQUIPMENT*. $___3___________

8. PER HOUR COST OF LABOR*. $_______6_______

9. CUSTOM (OR LEASE) RATE PER UNIT. $___6_____, __________

10. ADDITIONAL GAIN OR LOSS PER UNIT ASSOCIATED WITH CUSTOM HIRE OR LEASE. DESIGNATE LOSS WITH A MINUS. $__0____, ________

11. INTEREST RATE (A) BORROWING MONEY (B) RATE YOU FEEL YOU CAN EARN. __15_____, _15______

12. ESTIMATED HOURS OF LIFE FOR THE MACHINE*. 2500___

13. TOTAL REPAIR COST IN % OF NEW COST*. __80_____

14. ESTIMATED PERFORMANCE - ACRES PER HOUR*. _10_______, _________

15. IF YOU EXPECT TO DO CUSTOM WORK, ENTER UNITS (ACRES OR HOURS) OF WORK DONE FOR OTHERS. ____0_____, __________

16. PUT "1" IN COLUMN 1, IF ITEM IS ELIGIBLE FOR INVESTMENT CREDIT; 0 IF NOT; PUT THE TOTAL OF CASH PAID FOR THE ITEM PLUS THE UNDEPRECIATED BALANCE OF ANY ITEM TRADED IN COLUMN 2.
____1______, _8000___

17. EXPECTED TAX BRACKETS. GIVE YOUR ESTIMATED BRACKET FOR ONE YEAR MORE THAN THE YEARS THE MACHINE IS TO BE USED IF YOU PLAN TO PURCHASE THE MACHINE OTHER THAN IN JANUARY.

YEAR	RATE	YEAR	RATE	YEAR	RATE
1	35	6	35	11	----
2	35	7	35	12	----
3	35	8	35	13	----
4	35	9	35	14	----
5	35	10	35	15	----

TYPE 999 WHEN FINISHED.

```
BEST  METHOD IS DECLINING BALANCE +20

                PURCHASE ANALYSIS--DEPRECIATION METHOD  6

-----------------------------------------------------------------------
 YEAR    COST        DEPR     CUSTOM        FUEL       LABOR     REPAIRS
-----------------------------------------------------------------------
  0     8000.00
  1        0.     2880.00       0.          90.00      180.00       13.96
  2        0.     1024.00       0.          90.00      180.00       27.93
  3        0.      819.20       0.          90.00      180.00       41.89
  4        0.      655.36       0.          90.00      180.00       55.85
  5        0.      524.29       0.          90.00      180.00       69.82
  6        0.      419.43       0.          90.00      180.00       83.78
  7        0.      335.54       0.          90.00      180.00       97.75
  8        0.      268.44       0.          90.00      180.00      111.71
  9        0.      214.75       0.          90.00      180.00      125.67
 10     -687.19    171.80       0.          90.00      180.00      139.64
-----------------------------------------------------------------------

-----------------------------------------------------------------------
 YEAR  INTEREST  INS, TAX,  CASH          TAX        NET      PRESENT
                 HOUSING    FLOW        SAVINGS      COST      VALUE
-----------------------------------------------------------------------
  0                         8000.00                 8000.00   8000.00
  1     1200.00    120.00   1603.96    -1569.39       34.58     30.07
  2     1080.00    108.00   1485.93     -878.47      607.45    459.32
  3      960.00     96.00   1367.89     -765.48      602.41    396.09
  4      840.00     84.00   1249.85     -666.83      583.03    333.35
  5      720.00     72.00   1131.82     -579.64      552.18    274.53
  6      600.00     60.00   1013.78     -501.62      512.16    221.42
  7      480.00     48.00    895.75     -430.95      464.79    174.73
  8      360.00     36.00    777.71     -366.15      411.56    134.54
  9      240.00     24.00    659.67     -306.05      353.63    100.52
 10      120.00     12.00   -145.56     -249.70     -395.26    -97.70
  TOTAL                    18040.81    -6314.28    11726.52  10026.87
  COST PER BALES                                       3.91      3.34
-----------------------------------------------------------------------

IF YOU WANT TO SEE ANOTHER ANALYSIS,
1=STRAIGHT LINE
2=STRAIGHT LINE + 20 PERCENT
3=SUM OF YEARS DIGITS
4=SUM OF YEARS DIGITS + 20 PERCENT
5=DECLINING BALANCE
6=DECLINING BALANCE + 20 PERCENT
7=GO ON THRU THE PROGRAM
```

```
                   SUMMARY OF COSTS PER BALES FOR 300 BALES(S)

--------------------------------------------------------------------
                        DEPRECIATION METHOD
      1         2         3         4         5         6      CUSTOM
--------------------------------------------------------------------
     3.51      3.44      3.41      3.36      3.39      3.34      1.96
--------------------------------------------------------------------

WHAT IS YOUR CHOICE
? 7

                     CUSTOM OR LEASE ANALYSIS

--------------------------------------------------------------------
     YEAR    CUSTOM OR   CROP GAIN  TAX          NET      PRESENT
               LEASE      OR LOSS  SAVINGS       COST      VALUE
--------------------------------------------------------------------
       1     1800.00       0.      -630.00    1170.00   1017.39
       2     1800.00       0.      -630.00    1170.00    884.69
       3     1800.00       0.      -630.00    1170.00    769.29
       4     1800.00       0.      -630.00    1170.00    668.95
       5     1900.00       0.      -630.00    1170.00    581.70
       6     1800.00       0.      -630.00    1170.00    505.82
       7     1800.00       0.      -630.00    1170.00    439.85
       8     1800.00       0.      -630.00    1170.00    382.48
       9     1800.00       0.      -630.00    1170.00    332.59
      10     1800.00       0.      -630.00    1170.00    289.21
    TOTALS                        -6300.00   11700.00   5871.96
    COST PER BALES                               3.90      1.96
--------------------------------------------------------------------

TYPE;
      1  TO MAKE CHANGES
      2  TO START OVER
  OR  3  TO STOP
? 3
END OF PROGRAM

    THIS PROGRAM WAS WRITTEN BY
         DR. W. A. TINSLEY
             CLEMSON UNIVERSITY
```

(EXAMPLE 2)

327
HO-69
FBMA II

BUY VERSUS CUSTOM HIRE

WHAT IS YOUR UNIT? (ACRES, HOURS, MILES, ETC.) BALES
COMPLETE COLUMN TWO WHEN A MACHINE IS TO BE USED FOR TWO CROPS. FOR EXAMPLE, A COMBINE MIGHT BE USED FOR SMALL GRAIN AND CORN.

1. MONTH OF PURCHASE IF PURCHASED (1-12) __1______
2. COST OF PURCHASED MACHINE WITHOUT TRADE-IN. $8000___
3. ESTIMATED SALVAGE VALUE OF MACHINE AT SALE OR TRADE. $__0______
4. ESTIMATED YEARS BEFORE TRADE OR SALE. __10______
5. IF USED MACHINERY, ENTER 1.
   IF LIVESTOCK, ENTER 2.
   IF IMPROVEMENTS, ENTER 3; OTHER CASES ENTER 0. __0_______
6. ESTIMATED UNITS (ACRES, HOURS, ETC.) OF USE/YR. 750_, _____
7. PER HOUR COST OF FUEL FOR MACHINE AND ASSOCIATED EQUIPMENT*. $__3___________
8. PER HOUR COST OF LABOR. $___6_________
9. CUSTOM (OR LEASE) RATE PER UNIT. $__6______, __________
10. ADDITIONAL GAIN OR LOSS PER UNIT ASSOCIATED WITH CUSTOM HIRE OR LEASE. DESIGNATE LOSS WITH A MINUS. $__0____, ________
11. INTEREST RATE (A) BORROWING MONEY (B) RATE YOU FEEL YOU CAN EARN. __15____, __15_____
12. ESTIMATED HOURS OF LIFE FOR THE MACHINE*. 2500___
13. TOTAL REPAIR COST IN % OF NEW COST*. ___80_____
14. ESTIMATED PERFORMANCE - ACRES PER HOUR*. __10______, __________
15. IF YOU EXPECT TO DO CUSTOM WORK, ENTER UNITS (ACRES OR HOURS) OF WORK DONE FOR OTHERS. ___0_____, __________
16. PUT "1" IN COLUMN 1, IF ITEM IS ELIGIBLE FOR INVESTMENT CREDIT; 0 IF NOT; PUT THE TOTAL OF CASH PAID FOR THE ITEM PLUS THE UNDEPRECIATED BALANCE OF ANY ITEM TRADED IN COLUMN 2.
    ____1______, 8000____
17. EXPECTED TAX BRACKETS. GIVE YOUR ESTIMATED BRACKET FOR ONE YEAR MORE THAN THE YEARS THE MACHINE IS TO BE USED IF YOU PLAN TO PURCHASE THE MACHINE OTHER THAN IN JANUARY.

YEAR	RATE	YEAR	RATE	YEAR	RATE
1	35	6	35	11	----
2	35	7	35	12	----
3	35	8	35	13	----
4	35	9	35	14	----
5	35	10	35	15	----

TYPE 999 WHEN FINISHED.

```
BEST  METHOD IS DECLINING BALANCE +20


             PURCHASE ANALYSIS--DEPRECIATION METHOD  6


--------------------------------------------------------------------
YEAR     COST       DEPR    CUSTOM      FUEL      LABOR     REPAIRS
--------------------------------------------------------------------
  0    8000.00
  1      0.     2880.00      0.       225.00    450.00      34.91
  2      0.     1024.00      0.       225.00    450.00      69.82
  3      0.      819.20      0.       225.00    450.00     104.73
  4      0.      655.36      0.       225.00    450.00     139.64
  5      0.      524.29      0.       225.00    450.00     174.55
  6      0.      419.43      0.       225.00    450.00     209.45
  7      0.      335.54      0.       225.00    450.00     244.36
  8      0.      268.44      0.       225.00    450.00     279.27
  9      0.      214.75      0.       225.00    450.00     314.18
 10   -687.19    171.80      0.       225.00    450.00     349.09
--------------------------------------------------------------------


--------------------------------------------------------------------
YEAR  INTEREST INS, TAX,  CASH         TAX       NET      PRESENT
               HOUSING    FLOW       SAVINGS     COST      VALUE
--------------------------------------------------------------------
  0                      8000.00              8000.00    8000.00
  1    1200.00   120.00  2029.91  -1718.47     311.44     270.82
  2    1080.00   108.00  1932.82  -1034.89     897.93     678.97
  3     960.00    96.00  1835.73   -929.22     906.50     596.04
  4     840.00    84.00  1738.64   -837.90     900.74     515.00
  5     720.00    72.00  1641.55   -758.04     883.50     439.26
  6     600.00    60.00  1544.45   -687.36     857.09     370.55
  7     480.00    48.00  1447.36   -624.02     823.35     309.53
  8     360.00    36.00  1350.27   -566.55     783.72     256.20
  9     240.00    24.00  1253.18   -513.78     739.41     210.19
 10     120.00    12.00   468.90   -464.76       4.13       1.02
 TOTAL                  23242.81  -8134.98   15107.82   11647.56
 COST PER BALES                                  2.01       1.55
--------------------------------------------------------------------


IF YOU WANT TO SEE ANOTHER ANALYSIS,
1=STRAIGHT LINE
2=STRAIGHT LINE + 20 PERCENT
3=SUM OF YEARS DIGITS
4=SUM OF YEARS DIGITS + 20 PERCENT
5=DECLINING BALANCE
6=DECLINING BALANCE + 20 PERCENT
7=GO ON THRU THE PROGRAM
```

```
              SUMMARY OF COSTS PER BALES FOR 750 BALES(S)

--------------------------------------------------------------------
                          DEPRECIATION METHOD
        1        2        3        4        5        6     CUSTOM
--------------------------------------------------------------------
      1.62     1.59     1.58     1.56     1.57     1.55      1.96
--------------------------------------------------------------------


WHAT IS YOUR CHOICE
? 7
RETRANSMIT LAST LINE
7

                     CUSTOM OR LEASE ANALYSIS


--------------------------------------------------------------------
    YEAR    CUSTOM OR    CROP GAIN  TAX           NET      PRESENT
              LEASE       OR LOSS  SAVINGS        COST      VALUE
--------------------------------------------------------------------
      1      4500.00        0.     -1575.00    2925.00    2543.48
      2      4500.00        0.     -1575.00    2925.00    2211.72
      3      4500.00        0.     -1575.00    2925.00    1923.23
      4      4500.00        0.     -1575.00    2925.00    1672.38
      5      4500.00        0.     -1575.00    2925.00    1454.24
      6      4500.00        0.     -1575.00    2925.00    1264.56
      7      4500.00        0.     -1575.00    2925.00    1099.62
      8      4500.00        0.     -1575.00    2925.00     956.19
      9      4500.00        0.     -1575.00    2925.00     831.47
     10      4500.00        0.     -1575.00    2925.00     723.02
    TOTALS                        -15750.00   29250.00   14679.90
    COST PER BALES                                3.90       1.96
--------------------------------------------------------------------
```

QUIZ--MACHINERY, EQUIPMENT AND BUILDINGS

____ 1. Depreciation is an example of a:

a. fixed cost
b. variable cost
c. neither
d. both

____ 2. Principal payments are an example of a:

a. fixed cost
b. variable cost
c. neither
d. both

____ 3. Machinery costs have been increasing faster than most other inputs. True or False

____ 4. Fixed costs are those which remain about the same regardless of the amount of use. True or False

____ 5. Variable costs are calculated on a per unit basis rather than per year. True or False

____ 6. Tax savings (investment credit and depreciation) enable all farmers to justify the purchase of more machinery and/or buildings. True or False

____ 7. Feasibility (cash flow) is always positive if the profitability is positive. True or False

____ 8. Timeliness is an important consideration in comparing ownership versus custom hiring. True or False

____ 9. Frequently, a young farmer can own one machine and do some custom work in addition to the owned land and generate cash to pay for custom hiring another more expensive job. True or False

10. The two kinds of costs associated with ownership are:

a. ____________________

b. ____________________

KEY

1. a. fixed
2. c. neither
3. True
4. True
5. True
6. False
7. False
8. True
9. True
10. a. fixed
    b. variable

FARM BUSINESS MANAGEMENT ANALYSIS

Unit II: Analyzing the Farm Business

Lesson 10: Utilizing Farm Credit

A. Review

The previous lesson, Analyzing Machinery, Equipment and Building Costs, should be reviewed. List all conclusions reached at the last meeting. Possible conclusions may have included:

1. Fixed and variable costs are both present in analysis of investments in machines and/or buildings.
2. Tax consequences should be considered in an investment.
3. Feasibility (cash flow) of an investment needs to be considered.
4.
5.

B. Objective

To learn how to evaluate credit needs of farmers and how to compare lending agencies and costs of different types of credit.

C. Motivation

1. Explain to the group that only 40 years ago labor accounted for 55 percent of all resources used in agriculture, land for 15 percent, and capital for 30 percent. By 1976, utilization of resources had changed to where labor contribution had dropped to 20 percent; land increased to 20 percent and capital jumped to 60 percent. We are at a point in which the wise use of credit is essential to success in the farm business. Practically no farmer can operate without substantial amounts of borrowed capital. Point out that the capital investment per man in agriculture is two to three times that of non-agriculture business. A new type of management is required to manage the finances of the farm business.

2. Show TM-28 and discuss the Balance Sheet of the Farming Sector. Show how much the total liabilities of farmers have risen in 36 years. You may want to note the fact that the total assets in farming have risen dramatically since 1970 but that much of the rise has been due to inflation and that the total assets of young farmers just getting started in the business have risen more slowly and are much closer to the liabilities curve than shown on the transparency.

3. Administer the accompanying quiz, HO-71, as a motivating experience for enrollees.

D. Key Points

Key points which will be accomplished are as follows:

1. *How do I select a personal leading agency?*

2. *What are the three types of credit and how can they be used as a benefit?*

3. *What are the costs of credit?*

4. *What is a security agreement and how is it used?*

5. *How should I plan my credit needs?*

E. Introduction of Information

Begin the introduction of information by explaining to the enrollees that each key point in the lesson will be discussed separately but that in reality all aspects of farm credit affect each other and that relationships between types of lending agencies, credit structure, credit costs and needs are all tied together and important to understand.

1. *How do I select a personal lending agency?*

Lending agencies will be discussed from two viewpoints: types and characteristics of various lending agencies and factors in choosing a lending agency with which to do business.

a. Show TM-29 as you discuss with the group the various factors that should be considered in choosing a lending agency with which to do business.

(1) Lending Policies of the Institution--Are the credit terms of the lender suitable to the needs of agricultural borrowers? Are repayment schedules fitted to the earnings of the operation? It is important to know what type of credit the agency offers. Some agencies only make short

term or intermediate term loans while some specialize in long term loans. What is the lending limit of the agency? Lending agencies sometimes have a limit on various types of credit and it is important to select a lender that can fulfill you needs.

(2) Reasonable Terms--One of the most important factors in selecting a lender is in the terms offered on various types of loans. Is the interest charge offered on agricultural loans competitive with other agencies? Is the lender flexible in setting up repayment schedules to fit the type of loan offered? What are the penalties for paying off early or late? What type of security does the lender require on loans? Does the lender offer a line of credit to borrowers who desire setting one up? These questions are all important ones to ask lenders with which you are considering doing business. The cost of using borrowed money is as important as any other expense and a farmer needs to evaluate the cost of credit just as prices of various kinds of feed, seed, fertilizer, etc., would be compared.

(3) Financial Knowledge of Lender--A lender needs to be more than someone that simply shuffles paper. The lender must be able to help you evaluate your credit needs. It is critical that a lender can evaluate a financial statement. A good lender should also be able to spot problem signals in a borrower's cash flow and help stop problem situations before they become serious. Familiarity with the many financing options available and the ability to explain them to borrowers and make recommendations as to the individual situation are also important.

(4) Permanence and Dependability--Most farmers will be using borrowed money, at least on a short term basis for as long as they are in business. Therefore, it is important to select a lending agency with a good reputation and a good track record in the community. It is also important to start with an agency that can service your credit needs as the business grows so that you don't have to change lenders every time your need for credit changes. Establishing a credit rating and a good working relationship with a lender is a timely process and it is important to select an agency that you can stay with for a long time.

(5) Knowledge of Agriculture--Loaning money for agricultural use is different than loaning for other types of businesses and a lender needs to understand the peculiarities of agriculture. A lender needs to be familiar with hogs if loans in swine production or crop production loans are made. The ability to understand agricultural pricing and price cycles is needed along with being familiar with forward contracting and use of the futures market in order to assist farmer borrowers in making credit decisions based on production budgets. Often lenders that are familiar with agriculture are most aware of pitfalls of various alternatives that others have tried and have failed.

b. Give enrollees a copy of HO-72 to refer to as you discuss the types and characteristics of various lending agencies. Point out that these descriptions are generalized and that individual agencies often vary among themselves in the way they do business.

2. *What are the three types of credit and how can they be used as a benefit?*

a. Show TM-30 and discuss the three types of credit as listed on the transparency. Use the following summary of information in your discussion.

(1) Short-Term Credit--Short-term credit, along with equity capital, is generally used in financing annual operations. Examples of annual operating inputs are feed, seed, fuel, fertilizer, chemicals and medicine. These items are used up in the normal operation of the business and once they are used, their identity is lost. Short-term operating loans are generally paid off in less than one year.

Short-term credit is offered by commercial banks, Production Credit Associations, Farmers Home Administrations, and dealers/merchants.

(2) Intermediate Term Credit--Intermediate term credit is used in financing production assets that will be used in more than one production process or production period. The life of an intermediate term asset is 1-10 years. Examples of intermediate term assets are breeding livestock and machinery. Intermediate term credit is often used to supplement the agri-manager's supply of short-term credit and equity capital.

Sources of intermediate term credit include Production Credit Associations, commercial banks, Farmers Home Administration, individuals, and dealers.

(3) Long Term Credit--Long term credit is used to finance investments in land, buildings, equipment and other fixed investments which can be used for 10 or more years. Young farmers just getting started in business generally need a larger amount of long term credit than older, established farmers. As percentage of owner equity in the business increases, the need for long term capital generally decreases.

Sources of long term credit include individuals, Federal Land Bank, Farmers Home Administration, insurance companies, and commercial banks.

3. *What are the costs of credit?*

Costs of credit will be discussed in two parts: first, looking at loan terminology and types of loans, and second, looking at some specific examples of how the cost of credit is determined in some sample situations.

a. Loan Terminology and Types of Loans--Give enrollees a copy of HO-73 and discuss each term or loan concept with them. Have them relate experiences they may have had with various types of loans in the past. Work through the examples presented in the handout and work through similar examples brought up by the enrollees.

b. Give enrollees a copy of HO-74 and have them work through example 1 on their own. When they have finished, go over the problem together and discuss any questions they may have. Follow through in the same manner with the rest of the examples. These example situations attempt to highlight credit decisions that often need to be made. It is also important that enrollees have a good understanding of how interest is figured in different ways and that they can determine the cost of the credit they are using.

Following are the solutions to the sample situations to use in your discussion.

Situation 1: What we really have here is a decreasing payment amortized loan. The cost of credit is determined as follows:

Year	Beginning Principal	Principal Payment	Interest Payment	Total Payment
1	$20,000	$ 4,000	$3,000	$ 7,000
2	16,000	4,000	2,400	6,400
3	12,000	4,000	1,800	5,800
4	8,000	4,000	1,200	5,200
5	4,000	4,000	600	4,600
		$20,000	$9,000	$29,000

The total cost of credit would be $9,000.

Figure the true APR as follows using the true interest formula:

$$\frac{2 \times 1 \times 9000}{\$20,000 \times (5 + 1)} = \frac{18,000}{120,000} = 15\% = \text{true APR}$$

Situation 2: To figure the cost of credit:

$$\$20,000 \times 15\% = \$3,000 \times 5 \text{ years} = \$15,000 \text{ total cost of credit}$$

The annual payment on the loan would be:

$$\frac{\$20,000 \text{ principal} + \$15,000 \text{ interest added on}}{5 \text{ years}} = \$7,000 \text{ annual payment}$$

To figure the true APR in the loan:

$$\frac{2 \times 1 \times 15,000}{\$20,000 \times (5 + 1)} = \frac{30,000}{120,000} = .25 \text{ or } 25\%$$

Situation 3: To figure total cost of credit on this loan:

Year	Beginning Principal	Principal Payment	Interest Payment	Total Payment
1	$20,000	$ 4,000	$2,800	$ 6,800
2	16,000	4,000	2,240	6,240
3	12,000	4,000	1,680	5,680
4	8,000	4,000	1,120	5,120
5	4,000	4,000	560	4,560
		$20,000	$8,400	$28,400

$8,400 interest + $300 credit life + $250 service fee = $8,950 total cost of credit

To figure the true APR:

$$\frac{2 \times 1 \times 8950}{20{,}000 \times (5 + 1)} = \frac{17{,}900}{120{,}000} = .149 \text{ or } 14.9\%$$

Situation 4: To figure the cost of credit in option one:

$15,000 borrowed from May 15 through September 30 (138 days) at 14% simple interest = $15,000 x 14% = $2100 ÷ 365 days = $5.753/day x 138 = $793.91

$16,000 borrowed from July 31 through September 30 (62 days) at 14% simple interest = $16,000 x 14% = $2240 ÷ 365 days = $6.137/day x 62 = $380.49

$793.91 + $380.49 = $1174.40 cost of credit in option one

To figure the cost of credit in option two:

$12,000 borrowed from May 15 through September 30 (138 days) plus a 5% stock requirement or $12,000/.95 = $12,631.58 total at 14½% interest = $12,631.58 x .145 = $1831.58 ÷ 365 = $5.018/day x 138 days = $692.48

$1,000 borrowed from May 31 through September 30 (123 days) plus a 5% stock requirement or $1,000/.95 = $1052.63 total at 14½% interest = $1052.63 x .145 = $152.63 ÷ 365 days = $.418/day x 123 days = $51.43

$2,000 borrowed from June 30 to September 30 (93 days) plus a 5% stock requirement or $2000/.95 = $2105.26 total at 14½% interest = $2105.26 x .145 = $305.26 ÷ 365 days = $.836/day x 93 days = $77.78

$3,000 borrowed from July 31 to September 30 (62 days) plus a 5% stock requirement or $3000/.95 = $3157.89 total at 14½% interest = $3157.89 x .145 = $457.89 ÷ 365 days = $1.255/day x 62 days = $77.78

$4,000 borrowed from August 31 to September 30 (31 days) plus a 5% stock requirement or $4,000/.95 = $4210.53 total at 14½% interest = $4210.53 x .145 = $610.53 ÷ 365 days = $1.673/day x 31 days = $51.85

$692.48 + $51.43 + $77.78 + $77.78 + $51.85 = $951.32

Naturally, you would select option two over option one in this case since the total cost of credit is less. It should be pointed out that one of the main advantages of a line of credit is that it is easy to borrow and repay and therefore a farmer is more likely to keep the credit balance as low as possible and make the best use of borrowed money.

Situation 5: To figure your annual payment:

220 acres x $875/acre = $192,500 total farm price

$192,500 x .20 = $38,500 down payment leaving a loan balance of $192,500 - $38,500 = $154,000

The amortization factor from the table for 25 years at 14% is .1454.

Annual payment = $154,000 x .1454 = $22,391.60

Interest first year = $154,000 x .14 = $21,560

This example highlights the fact that with equal payment amortized loans, interest makes up a large percentage of the payments during early years of the loan.

Situation 6: To figure the true APR:

2%/month x 12 mos./yr. = 24% simple interest

4. *What is a security agreement and how is it used?*

   a. Distribute HO-75, a sample note-security agreement and filing statement. Have the enrollees look over the agreement; discuss when and why security agreements are necessary. The following points will aid in your discussion.

      (1) Most loans require some type of security agreement. The lender or creditor's first obligation is to the success of the business or to the people whose money is being lent. Creditors want to do all they can to keep loans safe for both themselves and the borrower. A security agreement protects the lender in two ways. By accepting collateral or "pledged assets" as part of the security agreement, the lender has something of value to use to recover the loan if the borrower does not repay the money borrowed. In addition, with a properly filed security agreement, other creditors are prevented from seizing the collateral.

      (2) Security agreements are filed with the recorder of deeds. When a loan is made, the security agreement is drawn up. Included on the agreement is a listing of items of collateral that will secure the loan. Collateral includes such

assets as land, machinery, livestock, or stocks and bonds. A filing statement is then recorded with the recorder of deeds so that no one else can hold the same items as security. The borrower may not sell or dispose of any secured items without permission from the lender until the loan is satisfied. When the loan is paid off, the security agreement is abolished and the borrower may use the collateral involved.

5. *How should I plan my credit needs?*

a. Cash flow planning is the key to planning credit needs for the next month, year, or several years. Give enrollees a copy of HO-76 (same as HO-15, Lesson 4, Unit I). As enrollees follow along, show how a lender and borrower could use this sample completed cash flow to plan credit needs for the year. Use the following points to help in your discussion.

(1) In evaluating a cash flow plan such as this, the item a lender is interested in will be the figure on line K of each month, cash available before borrowing. As a lender looks at this sample cash flow, months in which money will be needed will be identified and months in which money can be repaid will be identified. The short-term credit borrowed at the beginning of the year is $20,840.

January--The cash available before borrowing is estimated to be a positive $1,030 at the end of January. A $1,000 principal payment can be made leaving a credit balance of $19,840.

February--The cash available before borrowing is only $142 at the end of February so no payments will be made and the credit balance will remain at $19,840.

March--There is a $353 deficit at the end of March so $500 will need to be borrowed to stay in the black, leaving a credit balance of $20,340.

April--A $2,982 surplus at the end of April allows repayment of $2,800, leaving a credit balance of $17,540.

May--There is only a small surplus of $287 at the end of May so no payment is made and the credit balance remains at $17,540.

June--A $7,139 surplus at the end of June allows repayment of $7,000 leaving a credit balance of $10,540.

July--A $2,806 surplus at the end of July allows repayment of $2,700 leaving a credit balance of $7,840.

August--A $4,173 surplus at the end of August allows repayment of $4,000 leaving a credit balance of $3,840.

September--A $40,620 surplus at the end of September allows repayment of the remainder of the short-term credit borrowed leaving a credit balance of $0.

October--There is still an $8,198 surplus at the end of October.

November--There is still a $1,461 surplus at the end of November.

December--There is a $12,825 deficit at the end of December, so $13,000 is borrowed to cover it; ~~leaving~~ a short-term credit balance, [illegible] at the end of the year.

(2) The lender, after seeing when and how much money will be needed during the year, will probably want to visit about the budgets run to get the figures for the plan. The lender will try to get a handle on how conservative you have been with your estimated figures and how realistic and workable your cash flow plan is.

F. Group Discussion

Some time should be set aside for enrollees to discuss any credit problems not already talked about or illustrated. This might be a good time to again point out and discuss the fact that farmers use much more credit than most other people and to be comfortable in farming, you need to become comfortable with using credit.

Give enrollees a copy of HO-77 and let each couple complete the handout together and grade themselves. Or, if you are short of time, suggest that they take it home and work through it there.

G. Conclusions

Conclusions which may be reached include:

1. Credit used as a percentage of total resources used in agriculture has doubled in the last 40 years.
2. A lending agency needs to be chosen carefully, considering such factors as dependability and permanence, ability to service needs now and in the future, ease of doing business, and cost of the credit offered.
3. Interest can be expressed in various ways and it is important to know how to figure the true cost of credit.
4. A borrower should always know what the true APR is on any loan made.
5. Security agreements are made on most loans to protect both the lender and the borrower.
6. Cash flow planning is the key to determining credit needs.
7.
8.

Announcements

The next meeting will be held in the fall. The topics for next year's meetings will center around farm planning and making adjustments in the farm business.

Social

On-the-Farm Instruction

When visiting enrollees following this lesson, spend time with them looking at their individual credit situations. Explore any changes in their credit management that could be made to make more effective use of their borrowed capital. Are they happy with their lender? Should they explore developing a "line of credit" for short-term financing? Are they operating with too much borrowed capital or not enough? Are they paying too much for their credit? Has their cash flow planning been effective? Go over these types of questions with the enrollees and help them to think through their credit situation.

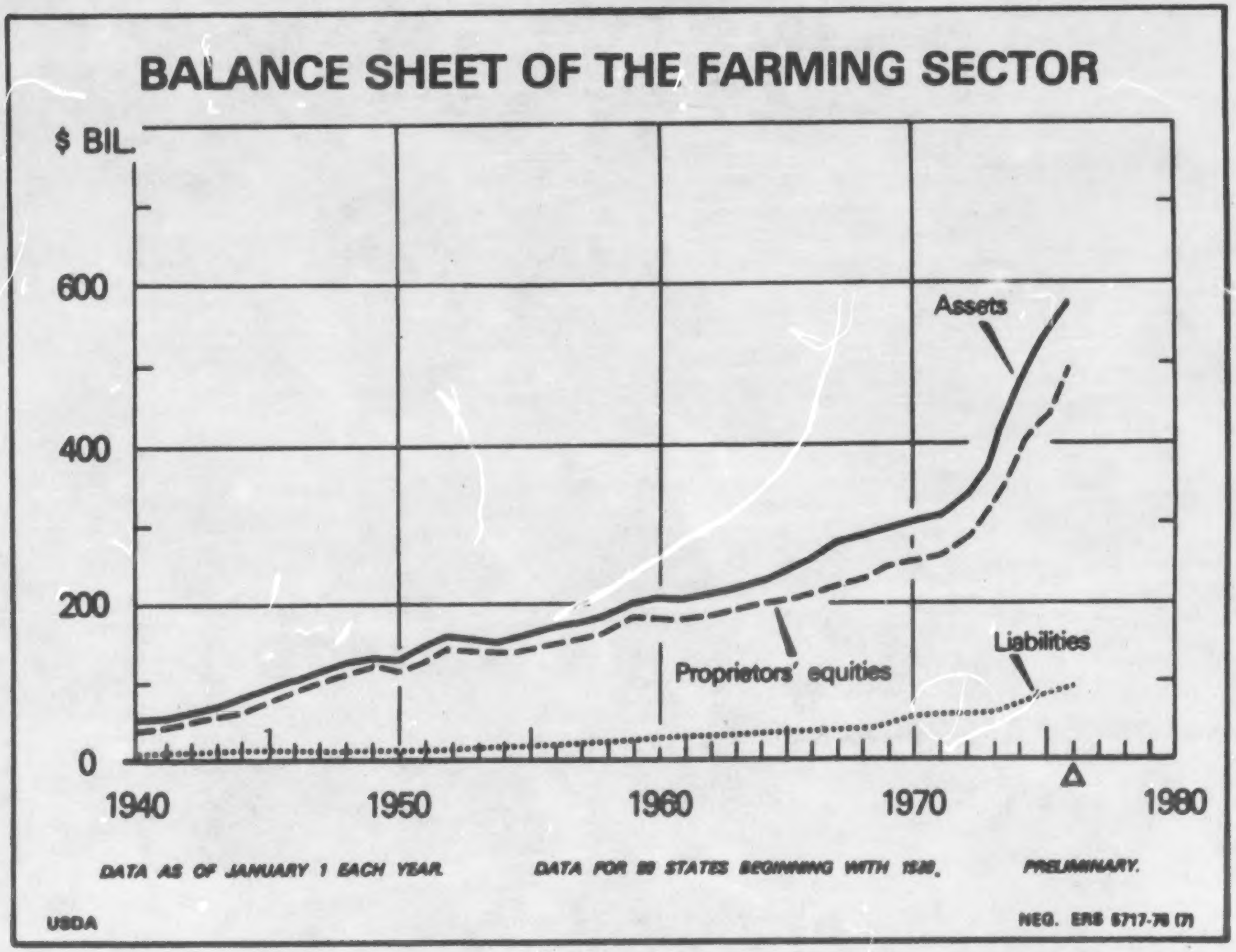
Materials Needed

Instructor

- TM-28, Balance Sheet of the Farming Sector
- TM-29, Factors in Selecting a Lender
- TM-30, Three Classifications of Credit

Student

- HO-71, Quiz on Credit
- HO-72, Lending Institutions in Agriculture
- HO-73, Loan Terminology and Types of Loans
- HO-74, Sample Situations--Farm Credit
- HO-75, Combined Note and Security Agreement with Power of Sale
- HO-76, Sample Cash Flow
- HO-77, Rate Yourself as a Credit Risk



Source: Balance Sheet of the Farming Sector, 1976, Agricultural Information Bulletin No. 403, Economic Research Service, USDA, September 1976.

FACTORS IN SELECTING A LENDER

1. LENDING POLICIES OF THE INSTITUTION

2. REASONABLE TERMS

3. FINANCIAL KNOWLEDGE OF LENDER

4. PERMANENCE AND DEPENDABILITY

5. KNOWLEDGE OF AGRICULTURE

THREE CLASSIFICATIONS OF CREDIT

SHORT TERM

- --USED TO FINANCE ANNUAL OPERATING INPUTS
- --LESS THAN ONE YEAR
- --SOURCES: BANKS, PCA, FHA, AND DEALERS

INTERMEDIATE TERM

- --USED TO FINANCE PRODUCTION ASSETS WITH A 1-10 YEAR LIFE
- --SOURCES: INDIVIDUALS, BANKS, PCA, FHA, DEALERS

LONG TERM

- --USED TO FINANCE LAND, BUILDINGS, EQUIPMENT, AND OTHER FIXED CAPITAL WITH A LIFE OF OVER 10 YEARS
- --SOURCES: INDIVIDUALS, FEDERAL LAND BANKS, FARMERS HOME ADMINISTRATION, INSURANCE COMPANIES, COMMERICAL BANKS

QUIZ ON CREDIT

____ 1. It is profitable for a farmer to borrow money to expand the farm business when the borrowed money:

a. returns more than the cost of borrowing money.
b. can be secured at a low interest rate.
c. can improve the level of production.
d. will increase volume of business.

____ 2. A form that should be completed prior to obtaining credit is:

a. Form 12--Depreciation Schedule.
b. Form 27--Cash Flow.
c. Form 10--Enterprise Expenditures.
d. Form 16--Inventory.

____ 3. A farmer that borrows $1,000 and repays it with 12 monthly payments of $90 would have an interest cost of:

a. 16.0%
b. 8.0%
c. 11.2%
d. 9.8%

____ 4. Leverage:

a. is use of borrowed funds with your own.
b. raises rate of return if profitable.
c. results in larger loss if not profitable.
d. all of the above.

____ 5. A young farmer with 50 percent debt would have a/an:

a. asset:liability ratio of 2:1.
b. debt:net worth ratio of 1:1.
c. dollar borrowed for each of his own dollars.
d. all of the above.

____ 6. A farmer with assets of $100,000 and a debt:worth ratio of 1:1 would have liabilities of:

a. $50,000
b. $100,000
c. $25,000
d. all of the above

____ 7. About 60 percent of the credit to buy farmland is furnished by:

a. Federal Land Banks (FLB).
b. Individuals.
c. Farmers Home Administration (FHA).
d. all of the above.

____ 8. Dealer credit is often:

a. zero interest on open accounts for 30 days.
b. higher than that charged by banks or PCA.
c. 12-15 percent.
d. all of the above.

____ 9. A note and security agreement are the same thing. True or False

10. In an ideal situation, a farmer applying for a loan would take the following three prepared forms or statements with him.

a. ____________________________
b. ____________________________
c. ____________________________

ANSWERS TO EXAM

1. a

2. b

3. d

$$9.8 = \frac{2 \times 12 \times 80}{1000 \times 13}$$

4. d

5. d

6. a

7. b

8. d

9. False

10. a. Financial Statement--Form 28
    b. Profit and Loss Statement--Form 29
    c. Cash Flow Estimate--Form 27

LENDING INSTITUTIONS IN AGRICULTURE

1. *Commercial Banks.* Banks are a big source of funds for all types of loans, including real estate, machinery and operating and family expenditure loans.

   Repayment time: Up to 1½ years on operating and other short-term loans, usually 1 year or less; two to seven years on intermediate loans including large machinery and improvement loans; and up to 20 years on real estate, but more generally 10 to 15 years.

   How much you can borrow: Most loan applications are evaluated on the ability to repay, purpose of the loan, and the financial position of the borrower.

2. *Federal Land Bank Associations.* FLBs make only loans secured by real estate. The money from the loan, however, may be used to purchase land, refinance existing mortgages, build and repair buildings, buy machinery and livestock, pay operating expenses or use for other purposes.

   Repayment time: 5 to 40 years. Any or all of the loan can be repaid at any time without penalty. Prepayments can also be built up to meet later payments when they come due.

   FLBs in some areas are beginning to make loans where you pay interest only for up to 10 years. Then, the entire loan comes due at the end of 10 years.

   How much you can borrow: Loans are made on up to 85% of the appraised normal value of the farm real estate used for security, plus 5% which is used to purchase stock in the association. The normal agricultural value varies according to the earning power of the farm, location, availability of off-farm employment, and other related factors. Dividends may be paid on the stock of the member borrowers.

3. *Production Credit Associations.* PCAs make short-term loans for such items as seed, feed, fertilizer, family living expenses, hospital bills, or most any other farm operating or family living expense.

   They make intermediate term loans for capital purchases, including tractors, combines, equipment, livestock, improving land and buildings, large feed installations, automobiles, trucks and other family living and farm business expenses.

   Total farm budgeted loans are available, where the borrower receives money when it is needed and pays interest only on the outstanding balance.

Repayment time: Short-term loans are due usually in 1 year. Intermediate loans may be repaid over a 7-year period.

How much you can borrow: Most loans are evaluated on your ability to repay the loan from sales of farm products, purpose of the loan and your financial position. Most PCAs can make large enough loans to accommodate large operations. Purchase of stock (equal to 5% of the loan) is a condition of the loan. Dividends may be paid on stock of member borrowers.

4. *Life Insurance Companies.* They make loans secured by farm real estate. The proceeds may be used to buy farm land, improve or construct buildings, or any other worthwhile farm project.

During our present period of tight money, usury laws in some states and better alternative investments have caused a large reduction in insurance company farm mortgage funds.

In the St. Louis Farm Credit District, the life insurance companies' share of the market dropped from 23% in the first half of 1968 to 15% in the first half of 1969. In the St. Paul district, the share dropped from 38% to 7%.

Don't forget--you may also have a life insurance policy with a cash surrender value which you can use as collateral for a loan, or you may borrow the amount directly from your life insurance company. The proceeds from a policy loan may be used as you wish.

Repayment time: Generally 5 to 25 years, but some up to 40 years. Some insurance companies restrict prepayments to 20% of original loans during any one year. If more than 20% is paid in one year, a penalty is assessed.

Some permit large prepayment if all prepayment is derived from farm income. Various payment plans are also offered, such as perpetual or balloon type and participation loans.

How much you can borrow: Up to 50-75% of the appraised value of the farm and improvements offered as security.

5. *Farmers Home Administration.* You must be unable to obtain adequate credit from other lenders to be eligible for FHA loans.

FHA has three credit programs available to farmers: farm operating, farm ownership, and emergency credit programs. Operating loans are made for purchase of livestock, seed, feed, and other current operating needs. Ownership loans are made to enable farmers to enlarge, develop, and buy farms. Emergency loans are made to farmers in counties which have been officially declared as disaster counties. The interest rates on FHA loans are generally lower than those charged by other lending agencies.

Repayment time: Operating loans have maturities up to 7 years. Farm ownership and soil and water loans extend up to 4 years.

How much you can borrow: FHA can loan a higher percentage on security than other lenders. Farm ownership loans can be made up to 100% of the amount of the full, fair and reasonable value of the property as determined by the local county committee. The maximum amount of operating loans and farm ownership loans is limited by law.

6. *Small Business Administration.* The Small Business Administration (SBA) loan activity in agriculture has previously been aimed primarily toward agriculturally related businesses instead of production agriculture. In recent years, however, the SBA has furnished loans to farmers in disaster situations at lower rates of interest than could be obtained from other lenders.

7. *Commodity Credit Corporation.* CCC is not a lending agency, but it can provide a source of money and credit for program participants. CCC loans on stored crops produced under commodity programs are available.

   With the commodity as collateral, the corporation makes nonrecourse loans to farmers on warehouse or elevator stored and on-farm stored wheat and feed grains. The amount of loan is 90% of amount certified by producers or 100% of the amount if certified by ASCS or warehouse receipts.

   Interest rates are reviewed by the corporation every six months.

8. *Rural Credit Unions.* Most loans are for production purposes, such as seed, fertilizer, and machinery, but can be for any worthwhile purpose.

   Terms: Flexible lending programs and rates. Maximum legal rate is 1% per month on unpaid balance.

   How much you can borrow: Depends on repayment ability. Each union has its own policy.

   Where to apply: Some sponsoring organizations include cooperatives, farm organizations, rural churches and other rural groups.

9. *Dealer Credit.* Most farm machinery, equipment, feed and fertilizer may be financed through dealers. Loans through dealers may increase your total borrowing capacity, but be sure to consider any such purchases in your overall financing program and check the interest rates. Rates may be considerably higher than those charged by regular lenders.

   Dealer credit also includes short term credit (generally under 30 days) on open accounts at no interest for operating purchases. It is customary, however, for dealers and merchants to charge an interest fee when an unpaid account goes overdue. This interest fee may or may not be higher than the rates of other lending institutions.

10. *Individuals.* Some 60% of the farmland sold today is financed by the seller. Often lower down payments and lower interest rates are available under a sales contract.

    In this type of financing, even though a borrower may be working with relatives, it is important to keep it on a legal basis by using contracts, notes and other guarantees just as they would be used in institutional financing.

LOAN TERMINOLOGY AND TYPES OF LOANS

Cost of Credit--The money cost of borrowed capital is determined by the difference between dollars actually available to be spent for production or investment purposes and the total money paid to retire the loan. In addition to actual interest, the money cost of borrowed capital may include service charges, loan closing fees, carrying charges, fees for credit reports and appraisal fees. Any non-interest costs which are included as a condition of the loan should be included in the APR quoted by the lender. An example of this would be a loan of $1,000 for a year at 14 percent simple interest plus a $25.00 service charge. The cost of this loan would be $140 plus the $25 service charge making an APR of 16.5%.

Prime Rate--The prime rate is defined to be the lowest interest rate being charged at any point in time by commercial banks for short-term loans. The prime interest rate being quoted on the nationwide money market, however, may be quite a lot higher than the interest on agricultural loans from various local agriculture lending sources. Each local lender also has a "prime rate" which is the rate being charged lowest-risk borrowers for their credit.

APR (Annual Percentage Rate)--According to the Truth in Lending legislation passed by the U.S. Congress, lenders must inform borrowers of (a) the total finance charge on a loan and (b) the annual interest rate based upon compound interest tables. This is known as full disclosure of total finance costs in terms of annual percentage rate (APR). All lenders must inform borrowers of the APR of any loan they are processing with a written statement required under truth in lending provisions. Remember that APR includes the interest rate being charged plus any other costs associated with the loan.

Simple Interest Loan--A simple interest loan is one in which the interest is paid only on the unpaid loan balance. Interest is computed by multiplying the loan balance outstanding by the contractual interest rate and interest is only paid for the time the money is borrowed. Technically, simple interest refers to a single payment loan. Principal and interest are paid when the note comes due or at a prior date. Simple interest loans are generally made for a year or less.

The formula for figuring interest cost on simple interest loans is as follows:

Interest Cost = Principal x Interest Rate x Time

Example: $2,000 at 15% for 6 months

$2,000 x .15 x 6/12 = $150

The formula for figuring interest rate on simple interest loans is as follows:

$$\text{Simple Interest Rate} = \frac{\text{Dollar Cost of Credit}}{\text{Principal} \times \text{Time}}$$

Example: $2,000 used for one year with an interest charge of $300.

$$\frac{\$300}{\$2{,}000 \times 1} = .15 \text{ or } 15\% \text{ per year}$$

Add-On Interest Loans--Under this method, interest is figured on the full face value of the loan for the entire loan period. Interest is computed on the loan amount for the full term at the time the loan is made and then "added on." This amount (principal plus interest) is then divided equally by the number of payments to be made. The borrower is paying interest on the full original value of the note and only has use of part of the initial balance once principal payments are started. This loan is sometimes referred to as the "flat rate" loan.

The formula for estimating the APR interest rate on an add-on loan is as follows:

$$\begin{array}{c}\text{(APR) Annual}\\ \text{Interest Rate}\end{array} = \frac{2 \times \text{No. of Payments/Yr.} \times \$\ \overset{\text{(interest)}}{\text{Cost of Credit}}}{\underset{\text{(initially)}}{\text{Amount Borrowed}} \times (\text{Total No. of Payments} + 1)}$$

Example: $1,000 loan for 4 years with 15 percent add-on interest with semi-annual payments. $1,000 x 15% = $150 x 4 yrs. = $600 interest added on.

$$\begin{array}{c}\text{(APR) Annual}\\ \text{Interest Rate}\end{array} = \frac{2 \times 2 \times \$600}{\$1{,}000 \times (8 + 1)} = \frac{2{,}400}{9{,}000} = 2.67 \text{ or } 26.7\%$$

Discount or Front-End Loans--In a discounted loan, the interest is taken out first; i.e., the interest and any other loan charges are calculated and then subtracted from the principal. As an example, a $3,000 loan at 15 percent interest for one year would result in the borrower only receiving $2,550 to use when the loan is made and the $3,000 debt would be paid back by the end of the year as specified. Use the same formula for estimating the true (APR) Annual Interest Rate on a discounted loan as you would for an add-on loan.

Example: $1,000 loan for 1 year at 15 percent interest discounted with 1 payment at the end of the year. $1,000 x 15% = $150 x 1 yr. = $150 total interest paid. $1,000 - $150 = $850 actual credit obtained.

$$\text{(APR) Annual Interest Rate} = \frac{2 \times 1 \times \$150}{\$850 \times (1 + 1)} = \frac{300}{1{,}700} = .176 \text{ or } 17.6\%$$

Balloon Loan--A balloon type loan requires only interest payments each period until the final payment where all the principal is due at once. In some cases, a principal payment is made each time the interest payment is made, but the principal payments do not pay off the entire loan and a large portion of the principal is due at the loan maturity date. Balloon loans are commonly used when the purchased assets do not create enough cash flow to pay on principal for some time.

Example: A $10,000 loan for 3 years to buy 25 beef heifers at 14 percent simple interest with principal paid in one balloon payment at the end of the 3 years.

$10,000 x 14% = $1,400 interest each year

Year	Payment
1	$1,400 interest
2	$1,400 interest
3	$1,400 interest
4	$1,400 interest and $10,000 principal

Amoritized Loans--The amortized loan is a partial payment plan where part of the principal plus interest on the unpaid loan balance are repaid each year. There are two main types of amortization plans: (a) the decreasing payment plan and (b) the equal payment plan.

Under the decreasing payment plan, the loan is repaid in equal principal payments and each payment period, the interest is figured on only the remaining loan balance. This type of loan can be a hardship to young borrowers because of the large debt service requirement during the early years of the loan.

With the equal payment plan, there is a flat payment each period, but the proportion of the payment that is principal and interest varies over the term of the loan. The early payments made on the loan will include a large percentage of the interest payment and the later payments will include a greater share of the principal. Use amortization tables to compute the payments on an equal payment loan.

Example: Amortized loan decreasing payment loan. $15,000 for 10 years at 15 percent interest.

Year	Unpaid Principal	Principal Payment[1]	Interest[2]	Total Payment	Remaining Balance
1	15,000	1,500	2,250	3,750	13,500
2	13,500	1,500	2,025	3,525	12,000
3	12,000	1,500	1,800	3,300	10,500
4	10,500	1,500	1,575	3,075	9,000
5	9,000	1,500	1,350	2,850	7,500
6	7,500	1,500	1,125	2,625	6,000
7	6,000	1,500	900	2,400	4,500
8	4,500	1,500	675	2,175	3,000
9	3,000	1,500	450	1,950	1,500
10	1,500	1,500	225	1,725	0
Total	0	15,000	12,375	27,375	

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[1] Principal payment/year = $\frac{\text{total principal}}{\text{no. of years}}$

[2] Interest payment = unpaid principal at the beginning of the year x the interest rate

Example: Amortized loan--equal payment plan. $15,000 for 10 years at 15 percent interest.

Year	Principal & Interest Payment[1]
1	$ 2,988
2	2,988
↓	↓
10	2,989
Total	$29,888

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[1] The principal and interest payment is found by finding the factor from the amortization tables (in this case, .1992) and multiplying it by the amount of loan (in this case, $15,000).

Compensating Balances--In some cases, a borrower may be required to keep a certain proportion of a loan in a savings or checking account. This is often referred to as a compensating balance and the money contained therein is unavailable for use and the true APR will be greater than the quoted rate.

Production Credit Associations, Federal Land Bank Associations, and Banks for Cooperatives have something similar to compensating balances. PCAs and FLBAs require the borrower to purchase stock in the association in proportion to the amount borrowed. The banks for cooperatives require stock purchases based on the interest on the loan. The money to purchase the stocks is included in the loans but is not available for use by the borrower. However, the borrower may receive dividends on the stock purchase or compensating balance.

Example: Loan with stock purchase requirement. Assume an \$8,000, 2-year loan which is to be repaid in two equal annual payments on the principal at the end of each year with a contractual interest rate of 13 percent, with a 5 percent stock purchase requirement. In order to get the loan, the person would have to borrow \$8,000/.95 or \$8,421 to cover the 5 percent stock requirement. Each annual principal payment will be \$8,421/2 or \$4,210.50. The interest payment each year would then be:

Year 1--\$8,421.00 x .13 = \$1,094.73
Year 2--\$4,210.50 x .13 = 547.37

\$1,642.10 total interest paid

The (APR) Annual Interest Rate could be calculated by using the same formula presented earlier for figuring add-on interest:

$$\frac{2 \times 1 \times 1{,}642.10}{8{,}000 \times (2 + 1)} = \frac{3{,}284.10}{24{,}000} = .1368 \text{ actual interest rate}$$

A quick approximation of the actual annual interest may be made as follows:

Annual interest rate = contractual rate x (1 + stock requirement)

In this example, it would be:

Annual interest rate = .13 x (1 + .05) = .1365

Interest After Taxes--It is important to remember that interest paid is a tax deductible expense. When figuring the cost of borrowing, the farmers tax rate should be considered. As an example, the after-tax interest rate for a farmer in the 30 percent tax bracket would only be 10.5 percent on a loan at 15 percent interest.

15% interest x 30% tax bracket = .045
15% - 4.5% = 10.5%

It is also important to note that in times of inflation, the interest paid or received on money may be diminished or even covered by the effect of the inflation. As an example, if you borrow \$1,000 at 14 percent simple interest for a year when there is 10 percent inflation, you will owe \$1,140 at the end of the year. But, since the dollars you repay with are worth 10 percent less than the dollars you borrowed because of inflation, you are really only paying back \$1,026 (10% x \$1,140 = \$114, \$1,140 -

$114 = $1,026). This simply means that you are repaying borrowed money with dollars that are worth less because of inflation.

Line-of-Credit--Some lenders offer line-of-credit financing. There are various versions of line-of-credit financing. The two most common approaches are (a) level line of credit and (b) the sinking line of credit.

With a level line of credit, a borrower can borrow, pay off part or all of the debt, and then reborrow again. The line is replenishing. The borrower does not have to apply for a new loan each time money is needed. The credit line is drawn upon (up to a ceiling amount) as cash is needed and payments are made as income is available. This is sometimes referred to as revolving credit. Many banks and PCAs offer this option with short term credit. One big advantage of a borrower operating on a line of credit is that borrowing and repaying are easy and quick to do and a farmer is more likely to keep excess unused funds low; therefore, keeping a higher percentage of money in use. Another advantage of a line of credit is that you have money available to use for making a purchase when you don't have time to talk to your lender. To establish a level line of credit, a borrower generally sits down with the lender at least once per year and together they evaluate the financial position of the borrower and set a comfortable upper limit as ceiling for the line of credit.

A sinking line of credit is similar in that the borrower and lender meet in advance and establish a ceiling or limit that the borrower can draw upon at a selected time. The difference is that the line is not replenishing. The main advantage here is that the borrower can get a commitment on the amount available.

Cash flow planning is a must for anyone acquiring line of credit financing. Line of credit financing forces the borrower to look ahead.

Leverage--Using someone elses money along with your own gives you leverage. If a farmer can earn a net profit on borrowed capital, it stands to reason that a higher return is being earned on personal capital.

As an example, assume that you are able to get a return on an investment of 20 percent per year. You have $20,000 equity capital of your own to invest. This $20,000 investment would yield a return of $4,000 for the year. However, if you could borrow $20,000 additional dollars to invest at 15 percent interest you could gain a 5 percent return of $1,000 which, when added to the $4,000 return on equity capital, would yield a total return of 25 percent per year on your original investment. On the other hand, if things went sour and the investment returned only 12 percent, the resulting loss would be larger than if using only your own money.

When the economy is good, particularly in times of inflation, it pays to be highly leveraged (large percent borrowed capital as compared to equity capital); but, when the economy is in recession, those who are highly leveraged suffer first.

Annual Payment per $1 of Loan At Given Interest Rates and Maturities (Amortization Table)

Year	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.1700	1.1800	1.1900	1.2000
2	5301	5378	5454	5530	5607	.5684	.576[illegible]	.5839	.5916	5994	6072	.6151	.6229	.6308	.6387	.6466	.6545
3	3603	3672	3741	3810	3880	.3950	.4021	.4092	4163	.4235	4307	.4379	.4452	.4525	.4599	.4673	4747
4	2754	2820	2885	2952	3019	.3086	.3154	.3223	.3292	.3361	.3432	.3502	.3573	.3645	.3717	.3789	.3862
5	2246	2309	2373	2438	2504	.2570	.2637	.2705	.2774	.2843	.2912	2983	3054	.3125	.3197	.3270	.3343
6	1907	1970	.2033	2097	2163	.2229	.2296	.2363	.2432	.2501	.2571	.2642	.2713	.2786	.2859	.2932	.3007
7	1666	1728	1791	.1855	1920	1986	.2054	.2122	.2191	.2261	.2331	2403	.2476	2549	.2623	.2698	.2774
8	1485	1547	.1610	.1674	.1740	.1806	.1874	.1943	2013	.2083	.2155	.2228	2302	.2376	.2452	.2528	.2606
9	1344	1406	1470	.1534	.1600	1667	.1736	.1806	.1876	.1948	2021	2095	.2170	.2246	.2323	.2401	.2480
10	1232	1295	1358	.1423	.1490	1558	1627	.1698	.1769	.1842	.1917	.1992	.2069	.2146	.2225	.2304	.2385
11	1141	1203	.1267	.1333	1400	.1469	.1539	.1611	.1684	.1758	.1833	.1910	.1988	2067	.2147	.2228	.2311
12	1065	1128	1192	.1259	1326	.1396	.1467	.1540	.1614	.1689	.1766	.1844	.1924	.2004	.2086	.2168	.2252
13	1001	1064	1129	.119[illegible]	.1265	1335	.1407	.1481	.1556	.1633	.1711	.1791	.1871	.1953	.2036	.2121	.2206
14	0946	1010	1075	.1143	1212	.1284	.1357	.1432	.1508	.1586	.1666	.1746	.1828	.1912	1996	.2082	.2168
15	0899	0963	1029	.1097	.1168	.1240	.1314	.1390	.1468	.1547	.1628	1710	.1793	.1878	.1964	.2050	2138
16	0858	0922	.0989	1058	.1129	.1203	.1278	.1355	.1433	.1514	.1596	.1679	.1764	.1850	.1937	.2025	.2114
17	0821	0886	.0954	1024	.1096	.1170	.1246	.1324	1404	.1486	.1569	.1653	.1739	.1826	.1914	.2004	.2094
18	0789	0855	0923	.0994	1067	.1142	.1219	.1298	.1379	.1462	.1546	.1631	.1718	.1807	.1896	.1986	.2078
19	0761	0827	0896	.0967	.1041	.1117	.1195	.1275	.1357	.1441	.1526	.1613	1701	.1790	.1881	.1972	.2064
20	0735	0802	0871	0943	.1018	1095	.1174	.1255	.1338	.1423	1509	.1597	.1686	.1776	.1862	1960	.2053
25	0640	0709	0782	0858	0936	.1018	.1101	.1187	1275	.1364	1454	1546	.1640	.1734	.1829	.1924	.2021
30	0578	0650	0726	0805	0888	.0973	.1060	.1150	1241	1334	.1428	1523	.1618	.1715	.1812	.1910	.2008
35	0535	0610	0689	0772	0858	.0946	.1036	.1129	1223	.1318	.1414	.1511	.1608	.1707	1805	.1904	.2003
40	0505	0505	0664	0750	.0838	.0929	.1022	.1117	1213	.1309	.1407	1505	.1604	.1703	1802	.1901	.2001

SAMPLE SITUATIONS--FARM CREDIT

1. You have decided to buy a tractor for $20,000. You can get a loan at the bank for 15 percent simple interest for 5 years to be paid off in 5 equal annual principal payments. What will be the total cost of the credit offered here? What is the true APR on this loan?

2. The dealer offers to finance the same tractor for you at 12 percent interest using the "add-on" or "flat rate" method. The tractor will be paid for in 5 equal annual payments. How much will each annual payment be? What will be the total cost of the credit offered here? What is the true APR on this loan?

3. Another lending institution offers to finance the same tractor at 14 percent simple interest for 5 years as in number 1 above. They require the borrower to buy credit life insurance on the loan at a cost of $300 and charge a loan service fee of $250 at the time the loan is made. What is the total cost of credit on this loan? What would be the true APR on this loan?

4. You have run some budgets on feeding out 300 purchased feeder pigs and have decided that there is a good profit available. You figure that the pigs will cost about $12,000 and that it will cost about $15,000 for feed, veterinarian, and other variable costs. You have estimated the time schedule of the costs and returns as follows:

   May 15--purchase pigs at $12,000
   May 31--feed bill--$1,000
   June 30--feed and vet bill--$2,000
   July 31--feed bill--$3,000
   August 31--feed bill--$4,000
   September 30--feed bill--$5,000
   September 30--sell hogs--$32,000

   You have two options in borrowing the money for this enterprise.

   a. One lender will loan you the money in two installments, $15,000 on May 15 and an additional $16,000 on July 31, both loans to be repaid when the hogs are sold at a simple interest rate of 14 percent.

   b. A second lender will offer you a line of credit with a ceiling of $30,000 at 14½ percent. This lender requires you to purchase stock of 5 percent of principal each time you borrow additional money. You can borrow with this line of credit as you need to and pay back as you can.

   Which of the two options should you choose? What is the cost of the credit used in option a? What is the cost of the credit used in option b?

5. You are considering the purchase of 220 acre farm that is priced at $875.00 per acre. The person that owns the farm is willing to take a 20 percent down payment and loan the remainder at 14 percent interest, equal annual payments are to be made for 25 years. Using the amortization table, how much would your annual payment be and how much of the first year's expense would be interest expense.

6. Your feed store allows you to charge items purchased during the month and then bills you on the last day of the month for the accumulated purchases. The bill becomes overdue on the 10th day of the following month and if not paid by then the store charges 2 percent per month until the bill is paid. What is the true APR this business is charging for overdue bills?

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SAMPLE NOTE-SECURITY AGREEMENT

$.................. No. ....

COMBINED NOTE AND SECURITY AGREEMENT WITH POWER OF SALE

...., 19......

FOR VALUE RECEIVED, I (we), the undersigned, jointly and severally promise to pay to The [redacted] National Bank of [redacted] Mo., or order the sum of .... DOLLARS as follows, to-wit: $.............. on the .... day of .... 19......, and a like amount on the .... day of each succeeding month thereafter, until fully paid, with interest from .... until paid, at the rate of .... per cent per annum.

If default is made in the payment of any installment when due, or the interest thereon, then all of the remaining installments shall become due and payable at once. All signers, endorsers and parties to this instrument hereby waive demand, protest and notice of non-payment, and agree to all extensions and partial payment before or after maturity, and agree to pay ll collection charges; and if placed in the hands of an attorney, agree to pay a reasonable attorney's fee. AND TO SECURE AYMENT of this obligation I (we) sell, assign, transfer, set over and mortgage unto the said secured party, The [redacted] National Bank of [redacted] Mo., successors or assigns, chattels, as follows:

now in my possession, unincumbered, in .... County, Missouri, and of which I (we) am (are) the sole owner(s). If default be made in the payment of the debt above mentioned, or any part thereof, or if at any time the said Mortgagee, or holder hereof, deems debt insecure, or if said chattels are removed from said County, then the said Mortgagee may without demand or performance take into .... possession and sell such chattels at public or private sale, with or without notice, at any place in said County or State, to the highest bidder for cash, and shall credit proceeds of this obligation, less the expense of seizing, holding and selling including attorney's fee, rendering the surplus, if any, to the undersigned.

The makers hereby acknowledge the receipt by each of them of a separate written statement containing all disclosures required to be given to them in compliance with the Federal Truth in Lending Act.

WITNESS: ....

....

.... Address..

SAMPLE FILING STATEMENT

UNIFORM COMMERCIAL CODE—FINANCING STATEMENT—FORM UCC-1

IMPORTANT—READ INSTRUCTIONS ON BACK BEFORE FILLING OUT FORM

No. 2094 Standard Printing Co., Hannibal, Mo.

This FINANCING STATEMENT is presented to a Filing Officer for filing pursuant to the Uniform Commercial Code:	No. of Additional Sheets Presented:	Maturity Date 3. (Optional):
1. Debtor(s) (Last Name First) and Address(es):	2. Secured Party(ies): Name(s) and Address(es):	4. For Filing Officer: Time, Date, No., Filing Office

5. This Financing Statement Covers the Following Types (or Items) of Property:

☐ Proceeds—

☐ Products of the Collateral are Also Covered:

6. ☐ To be Recorded in Real Estate Mortgage Records

7. Description of Real Estate:

8. Name(s) of Record Owner(s): --

9. Assignee(s) of Secured Party and Address(es)

10. This statement is filed without the debtor's signature to perfect a security interest in collateral (check ☒ if so)

☐ already subject to a security interest in another jurisdiction when it was brought into this state, or

☐ which is proceeds of the following described original collateral which was perfected:

-- --

By-- By--

Signature(s) of Debtor(s) Signature(s) of Secured Party(ies)

(1) FILING OFFICER COPY—ALPHABETICAL
FORM UCC-1—MISSOURI UNIFORM COMMERCIAL CODE

Approved By: James C. Kirkpatrick
Secretary of State

FORM **CASH FLOW** **FINANCIAL PLAN OR SUMMARY**

	LINE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.	TOTAL
RECEIPTS														
Crop Sales Wheat	1						1715							1715
Fescue seed	2						3000							3000
	3													
	4													
Gov't Payments	5													
Custom Work	6							2000						2000
Dividends, Refunds, Resales	7													
Cash Rent, Other Farm	8													
Non-Brdg Livestock Sales	9													
Cattle	10									40,000				40,000
Hogs	11	4163	7493	4163	7088	3938	7088	4500	8100	4500	7898	4388	7898	71,217
Livestock Products	12													
	13													
OPERATING SALES TOTAL (add lines 1 through 13)	A	4163	7493	4163	7088	3938	11,803	6500	8100	44,500	7898	4388	7898	117,932
Breeding Livestock Sales	14													
	15													
	16													
Mach., Equip., Bldgs. Sold	17													
CAPITAL SALES TOTAL (add lines 14 through 17)	B													
TOTAL FARM RECEIPTS (line A plus B)	C	4163	7493	4163	7088	3938	11,803	6,500	8100	44,500	7898	4388	7898	117,932
MONEY BORROWED summary only	18													
NON-FARM RECEIPTS	19													
TOTAL DOLLARS AVAILABLE	D	4163	7493	4163	7088	3938	11,803	6500	8100	44,500	7898	4388	7898	117,932
EXPENDITURES														
Feed	20	2400	2400	2400	2275	2275	2275	2275	2475	2275	26,275	2400	2400	52,125
Vet., Med	21	50	50	50	50	50	50	50	50	50	50	50	50	600
Breeding Fees, Registr.	22													
Fertilizer, Lime	23		210				910				280		2025	3425
Crop Chemicals	24						130							130
Seeds, Crop Supplies	25		113				78							191
Machinery Repair, Maint.	26	50	50	50	50	50	50	50	50	50	50	50	[illegible]	600
Building, Fence Repair	27	75	75	75	75	75	75	75	75	75	75	75	75	900
Machinery, Truck Hire	28													

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Cash Rent	29													
Power Fuel, Oil, Grease	30	150	150	150	250	250	250	250	250	250	150	150	150	2400
Hired Labor	31													
Insurance	32				420					220				640
Taxes	33												530	530
Utilities	34	150	150	150	150	150	150	150	150	150	150	150	150	1800
Truck Expenses	35	50	50	50	50	50	50	50	50	50	50	50	50	600
Auto Expenses	36													
Misc. Farm Expenses	37	100	100	100	100	100	100	100	100	100	100	100	100	1200
Interest (existing obligations)	38		1200										5500	6700
Non-Breeding Livestock	39													
Cattle	40										7267	7267	7267	21,801
	41													
OPERATING EXPEND. TOTAL (add lines 20 through 41)	E	3025	4548	3025	3420	3000	4118	3000	3200	3220	34,447	10,292	18,347	93,642
Breeding Stock Purchases	42													
	43													
Mach. and Equip. Purchases	44										1200			1200
Land and Bldg. Imprvm'ts	45			800										800
CAPITAL EXPENSES TOTAL (add lines 42 through 45)	F			800							1200			2000
TOTAL FARM EXPENSES (line E plus F)	G	3025	4548	3825	3420	3000	4118	3000	3200	3220	35,647	10,292	18,347	95,642
PRINCIPAL PAID existing obligations	46		2000										3000	3000
NON-FARM EXP. AND INVEST.	47													2000
FAMILY LIVING	FL	833	833	833	833	833	833	833	833	833	833	833	837	10,000
TOTAL DOLLARS USED (add lines G through FL)	H	3858	7381	4658	4253	3833	4951	3833	4033	4053	36,480	11,125	22,184	110,642
CASH DIFFERENCE FOR MONTH (line D minus H)	I	305	112	-495	2835	105	6852	2667	4067	40,447	-28,582	-6737	-14,286	7290
CASH BALANCE BEGINNING OF MONTH (line N last month)	J	725	30	142	147	182	287	139	106	173	36,780	8198	1461	725
CASH AVAILABLE BEFORE BORROWING (line J±I)	K	1030	142	-353	2982	287	7139	2806	4173	40,620	8,198	1461	-12,825	8015
SHORT-TERM LOAN PROCEEDS (if line K is negative)	L			500									13,000	13,500
SHORT-TERM LOAN REPAYMENTS (if line K is positive)	M	1000			2800		7000	2700	4000	3840				21,340
CASH BALANCE END OF MO. (line K plus L minus M)	N	30	142	147	182	287	139	106	173	36,780	8198	1461	175	175
SHORT-TERM CREDIT BALANCE line O last month plus L minus M	O	19,840	19,840	20,340	17,540	17,540	10,540	7840	3840	-0-	-0-	-0-	13,000	13,000
20,84		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL

RATE YOURSELF AS A CREDIT RISK

Can you walk into your bank, production credit association, national farm loan association, or some other lender's office with confidence that you will rate a loan? Are you sure that you have a good proposition to offer? Or are you afraid you'll be turned down?

It all boils down to this--Are you a good credit risk?

The answer to this question can't come out all in black and white. But there are some answers about you and your farming that you lender needs to know. If you'll take your pencil and check yourself yes or no on the accompanying list, you'll know about where you stand with the measuring sticks that lenders use.

So, let's divide the detailed questions lenders ask into some broad categories--the borrower, the land, the farming plan, the records, and the loan. Check yes or no on each of the following check points and then turn to the back page for your rating as a good, medium, or poor credit risk.

Rate yourself before you look at the answers.

THE BORROWER--the most important	Yes	No
1. Do my friends and neighbors think well of me?	___	___
2. Do I let my bills run?	___	___
3. Do I explain to my creditor why I can't meet a payment?	___	___
4. Did I pay off more of my obligations in good times than I was obliged to?	___	___
5. Do I resist a lender's suggestions about my business?	___	___
6. Do I have a lot of bad luck?	___	___
7. Is my health good enough for me to carry more debt?	___	___
8. Am I farming the same way I did 10 years ago?	___	___
9. Can I carry myself through a bad year or two?	___	___
10. Can I cut my expenses in hard times?	___	___

Yes No

11. Do my buildings need many major repairs? ___ ___

12. Do I take good care of my machinery and livestock? ___ ___

13. Does my family help make decisions? ___ ___

14. Does my family assist in the farming enterprises? ___ ___

15. Do I keep up to date by reading farm magazines and other ways? ___ ___

16. Do I consider use of credit a normal part of my farming operation? ___ ___

17. Do I go all out for something new before it has been proved for my community? ___ ___

THE LAND

18. Have I checked the past production records of the farm I'm buying? ___ ___

19. Will the land return enough to carry the mortgage for its 20- or 30-year life? ___ ___

20. Will the land support my family as well as the mortgage? ___ ___

21. Do I know whether or not it will pay me to buy fertilizer? ___ ___

22. Have I used any suggestions from the extension service and vocational agriculture teacher? ___ ___

23. Does my land have any unchecked gullies? ___ ___

24. Will I have to move before I can benefit from some soil improvements? ___ ___

25. Are my crop yields average or better for my community? ___ ___

THE FARMING PLAN

26. Do I know what I'll be doing on my farm two years from now? ___ ___

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		Yes	No
27.	Can my farming program be adjusted to meet emergency situations?	___	___
28.	Do I rotate my crops?	___	___
29.	Do I buy seed and other supplies on the basis of price only?	___	___
30.	Do I always sell my crops right after harvest?	___	___
31.	Have I checked to see if a marketing or purchasing cooperative can help me?	___	___
32.	Do I regularly have to sell livestock before it is ready for market to pay my debts?	___	___
33.	Will I have anything left for farm improvements after living expenses and loan payments?	___	___
34.	Do I have good-quality livestock?	___	___
35.	Am I satisfied to stand pat on the quality of my livestock?	___	___
36.	Do I have the machinery, the tools I need?	___	___
37.	Have I a profitable "bread and butter" enterprise to back up any main-operation losses?	___	___
38.	Can I shift from parts of my operation which are a losing proposition?	___	___
THE RECORDS			
39.	Do I keep my records in my head?	___	___
40.	Can I tell how much money I made or lost last year?	___	___
41.	Do I know if I made or lost money on separate operations?	___	___
42.	Am I increasing my net worth (difference between what I own and what I owe)?	___	___
43.	Are my debts large in relation to what I owe?	___	___

	Yes	No
44. Do I have debts scattered among numerous creditors?	___	___

THE LOAN

	Yes	No
45. Will the money I borrow increase my income?	___	___
46. Do I always borrow on 60- and 90-day notes?	___	___
47. Am I going to have something to sell when the loan payment comes due?	___	___
48. Have I checked for better terms elsewhere?	___	___
49. Is my loan written so I can pay off the debt, or part of it, ahead of the due date?	___	___
50. Do I only ask for credit the day or week I need it?	___	___

ANSWERS TO HO-77

Here are the answers. Don't read this until after you have rated yourself as a credit risk.

You should have answered YES to these questions: 1, 3, 4, 7, 9, 10, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 25, 26, 27, 28, 31, 33, 34, 36, 37, 38, 40, 41, 42, 45, 47, 48, and 49.

You should have answered NO to these questions: 2, 5, 6, 8, 11, 15, 23, 24, 29, 30, 32, 35, 39, 43, 44, 46, and 50.

Scoring: If you had all the answers right you probably are an excellent credit risk. If you had not more than 8 errors you are a good risk. With 9 to 18 wrong answers, you probably are a medium risk. More than that and you probably rate as a poor risk.